

PACKARD (H.)

SURGICAL OPERATIONS

BY

HORACE PACKARD, M. D.,

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FIRST SERIES.

ANNUAL REPORT
OF
SURGICAL OPERATIONS

PERFORMED BY

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FOR THE YEAR 1891,

WITH A REPORT OF A THIRD SERIES OF

ABDOMINAL OPERATIONS,

COMPRISING SIXTY-SEVEN CASES.

ILLUSTRATED.



INTRODUCTION.

The following pages are prepared :—

First—For the purpose of laying before my professional colleagues a survey of my work in the field of Surgery during the past twelve months.

Second—As an acknowledgment of the courtesy extended to me by my fellow-workers in the field of medicine, in placing in my hands the material from which this array of clinical matter has been compiled.

Third—With the hope that the successes and failures herein portrayed may prove of interest, as well as aid, to my colleagues.

Fourth—That I may preserve in a compact form an annual *resumé* of my surgical work.

It is my purpose to include in this epitome a tabulated report of all cases operated on; a detailed description of all rare, and instructive cases, which may be of value for future reference; an allusion to such new methods and devices as my experience has found of service; and a reflection of such original methods, inventions, and improvements, as have resulted from my own labor in a department of professional work to which my whole time and strength are devoted.

JANUARY 14, 1892.

362 Commonwealth Av., Boston.

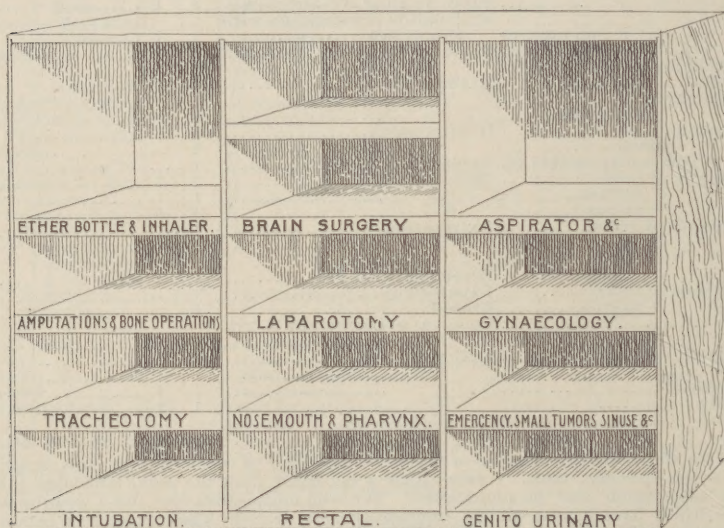
THE CARE AND CLEANSING OF INSTRUMENTS.

It is the desire of every surgeon at the present day to so shape his course in conducting an operation, as not only to relieve the patient of the malady for which the operation is performed, but also to secure prompt and rapid healing without suppuration.

This cannot be hoped for in parts which are already in a state of suppuration, as sinuses, fistulæ, abscesses, etc., but with all freshly made wounds it can be attained with almost scientific certainty.

In the early part of my surgical career, it was my custom to keep my surgical instruments carefully laid away in drawers, and on going to an operation pick out such as I might need for the case at hand.

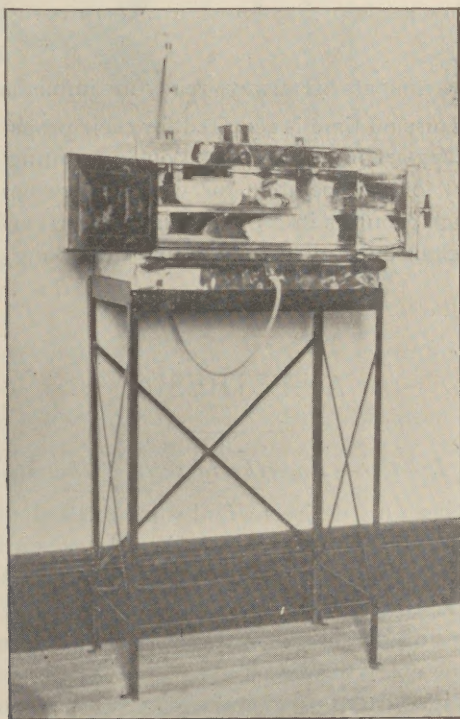
I soon found such a method extremely unsatisfactory and cumbersome; and, after much thought upon the subject, adopted the following plan: I arrange my instruments in groups; each group including every one I could by any possibility need to use in the class of operations for which that group is intended. The instruments of each group are kept rolled in a strip of aseptic gauze; and the group has its own labeled pigeon-hole in my instrument case.



SCHEME OF INSTRUMENT CASE.

The course which I find myself pursuing with this arrangement is as follows: On being summoned to a surgical case, I have only to seize the appropriate group of instruments and place it in my bag. Then I am ready, knowing that I have everything on hand which I can desire.

The saving of time thus effected, especially in emergency cases, such as Tracheotomy and Intubation, is of no small consideration. On returning from each operation my instruments are thoroughly scrubbed with a clean brush in soap and warm water, dried, wrapped in a *fresh* piece of gauze, and placed for half an hour in a sterilizing oven, the temperature of which is kept at 212° F. by gas flame, regulated by a thermostat.



THE LAUTENSCHLÄGER STERILIZER.

The group is then placed in its appropriate pigeon-hole, where it remains until again desired for use.

This system may be objected to, on the ground of duplication

of instruments; but the duplication consists almost solely in the smaller pieces, such as knives, scissors, forceps, etc., of which every surgeon should possess a plentiful supply.

With this system I am sure of having my instruments clean, and ready for an operation at all times.

They are not immersed in a carbolic or any other antiseptic solution at the time of the operation, but simply spread out on a sterilized towel.

The special advantages of this system are :—

I. The *instruments* are *always clean* :

First—Because they are *never allowed to remain soiled*.

Second—They are both *dried* and *sterilized by heat*.

Third—They are kept enveloped in a *clean* covering when not in use.

II. The instruments are always ready for immediate use :

First—Because no time is required for their preparation.

Second—They are in groups; each one containing every instrument necessary for the operation for which the group is designed.

Third—Each group is in a plainly labeled pigeon-hole; hence there is little chance for mistake in taking the wrong group.

ANÆSTHESIA.

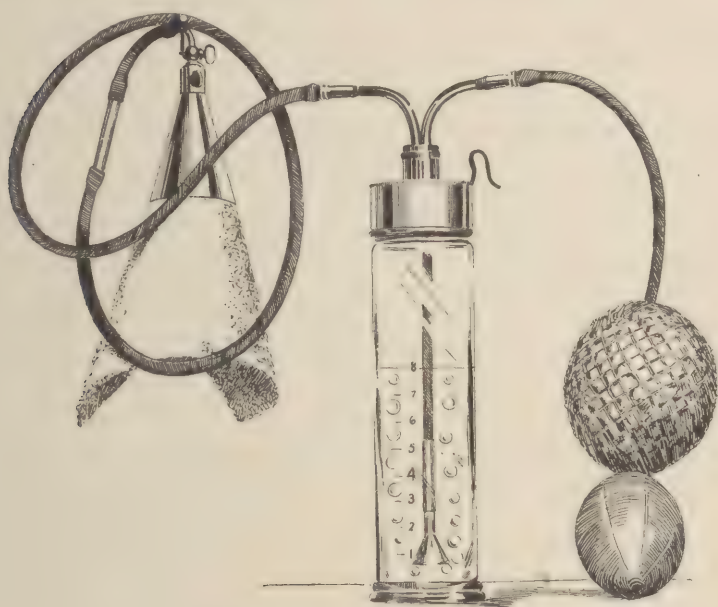
A New Inhaler—Anæsthesia with Etherated Air.

It has long been my desire to find some method of conducting surgical anæsthesia so that there would be less disturbance of the general system and digestive organs following it, and an exact method of regulating the amount administered. My early efforts in this direction resulted in the ether inhaler which bears my name, and which has come into general use.

It possesses the virtues of cleanliness, simplicity, and compactness; but it has never quite satisfied me, in that the amount of ether consumed has always seemed to be in excess of the requirements for surgical anæsthesia.

In pursuance with this idea, I have attempted the application of the Junker method of chloroform administration to ether, with

results which warrant me in now laying the result of my experiments before the profession.



ANÆSTHESIA WITH ETHERATED AIR.

The above cut furnishes a very excellent idea of the apparatus employed.

The ether reservoir consists of a bottle of peculiar shape, designed to preserve as great a depth of ether in the bottom as is possible, and at the same time to allow a large air space to remain above the level of the liquid. A cap provided with tubes screws securely on the top. To these tubes are coupled pieces of rubber tubing, one of which has a hand bulb attached to it, and the other leads to the face piece, which is a modification of my old inhaler, and is designed to meet those important requirements, compactness and cleanliness.

The part which comes in contact with the patient's face is a piece of Turkish toweling, so easily adjusted that a clean one can be used for each patient. The metallic top piece is arranged with an air valve to control the strength of the ether vapor. In using the inhaler, the ether reservoir is hooked into the button-hole, the mask placed over the patient's face, the hand bulb compressed

very gently at first, and the air valve wide open. This drives the air to the bottom of the bottle, through the long tube, which ends in a cone shape which breaks up the column of air into small bubbles. These rise rapidly through the ether, and quickly reach the patient's nose as "etherated air." It is so strongly impregnated with ether that the human respiratory tract cannot tolerate it in its full strength at first: hence very gentle compression of the bulb is made, with the air valve wide open.

By the end of the first minute the bulb can be worked a little more strongly, and the valve partly closed. At the end of the fourth minute the full volume of which the bulb is capable of sending to the patient may be tolerated, and the valve closed tightly. If the case be a favorable one for ether anæsthesia, and respiration be full and deep, two to three minutes more will produce surgical anæsthesia. This has all been accomplished without the patient experiencing the slightest discomfort in the way of bronchial irritation, or indicating that any unpleasant sensations are experienced. The vapor which is produced by this method is surprisingly pungent, and on first arranging the apparatus and placing it before my own face, I felt that there could be no doubt of its efficiency to produce anæsthesia.

After using it successfully on several cases, however, I finally met with one which resisted the most persevering efforts, and I finally was obliged to resort to the old fashioned cone. To provide for the repetition of such a contingency, I made such alteration of the apparatus that by making a half turn of the ether reservoir, and a slight rotation to the left of a milled thumb-screw which presents in the interior of the cone, liquid ether is carried over, and wets the inner surface of the towel evenly on all sides. The amount carried over is regulated by a small stop-cock at the top of the cone.

The idiosyncrasies of patients as regards ether anæsthesia are very marked. Happily, the majority of persons take it kindly, and succumb to its influence without serious symptoms arising, even when administered by the ordinary method. Such subjects are quickly brought to surgical anæsthesia through the method described above, with the consumption of only one fourth the amount of ether ordinarily used, and *no vomiting or retching* during the anæsthesia. Operations of an hour's duration are completed with a surprisingly small amount of ether,—three to five ounces.

The following table shows the list of cases thus far so etherized, with the time and amount used in the production of surgical anæsthesia, as well as the total time of operation and amount consumed.

TABLE.

Case	Complete Anæsthesia in		Amount of Ether required.		Total time.		Total amount of Ether used.	
	No.	Time.	oz.	min.	No.	Time.	oz.	min.
1	6	min.	1	oz.	55	min.	2	oz.
2	5	"	1	"	22	"	2	"
3	6	"	1	"	22	"	3	"
4	4	"	1	"	45	"	3	"
5	5	"	1	"	36	"	4	"
6	5	"	1	"	22	"	2	"
7	5	"	1	"	32	"	2	"
8	9	"	1	"	17	"	2	"
9	8	"	1	"	16	"	2	"
10	5	"	1	"	35	"	5	"

A small number of cases do not reach surgical anæsthesia by the administration of etherated air, and a still smaller per cent. resist ether by any method.

Of the total cases, four have recovered from the anæsthesia absolutely without nausea or vomiting.

The average amount of ether required to produce complete surgical anæsthesia is a little less than one ounce.

The average time required to complete surgical anæsthesia is $6\frac{3}{4}$ minutes.

The average time required for operation in the cases tabulated is thirty-three minutes.

The average total amount of ether consumed, $3\frac{1}{2}$ ounces.

This, when compared with the amount consumed by methods of anæsthesia commonly in vogue, shows enormous economy.

The promptness with which many of the patients awaken from this form of ether anæsthesia and begin to converse rationally, is very gratifying. There appears, also, to be less headache resulting from the anæsthesia. The vomiting commonly resulting from the old way is always a troublesome, and sometimes a serious complication. While this method does not wholly obviate that difficulty, yet experience thus far indicates that it is greatly modified, and in some cases entirely avoided.

One very great advantage possessed by this method, is the ease with which anæsthesia can be maintained during operations about

the mouth and face. This is accomplished by substituting a tube arranged for the purpose in place of the face piece, and holding it before the nose in case of a mouth operation, or holding it just within the mouth if the operation be upon the nose or upper portion of the face.

There are a few patients who do not take ether well by any method of administration, as well as now and then one to whom it is inadvisable to give ether, on account of some individual complication, such as the presence of renal hyperæmia, bronchial irritation, atheromatous condition of the arteries, etc.

The apparatus herein described is equally efficient for chloroform anæsthesia, and is used by simply detaching the tubes from the ether reservoir, and coupling them upon the chloroform bottle. It is my custom always to have chloroform at hand, whether operating at private houses or in hospital.

The thought suggests itself to me that for obstetrical anæsthesia the inhaler may prove itself of inestimable convenience. The ether reservoir can easily be hung upon the head-board of the bed with the aid of a cord and the hook which will be seen attached to the cap. Now, with fairly long tubes, the patient may manipulate the bulb and face piece herself. Of necessity, as soon as she feels the effect of the anæsthetic she must cease compressing the bulb, and the face piece falls off. With the recurrence of the pain she again makes self administration of the anæsthetic until it ceases by its own limitations.

TABLE OF CASES ETHERIZED BY OLD METHOD.

Case No.	Anæsthesia in	Amount of Ether Required.	Total Time.	Total Ether used.	Nausea, etc.	Case No.	Anæsthesia in	Amount of Ether Required.	Total Time.	Total Ether Used.	Nausea, etc.
1	9½ Min.	2½ Oz.	14 Min.	3½ Oz.	Yes.	15	5 Min.	2½ Oz.	55 Min.	14½ Oz.	Yes.
2	5½ "	2 "	30 "	4 "	"	16	9 "	3 "	26 "	4½ "	"
3	9 "	5 "	59 "	11½ "	"	17	5 "	2 "	40 "	5 "	"
4	4 "	25 "	25 "	4 "	"	18	7½ "	2½ "	"	"	"
5	4 "	1 "	17½ "	3 "	No.	19	11 "	5 "	27 "	7 "	"
6	10 "	4½ "	63½ "	9 "	Yes.	20	12 "	3¾ "	"	61½ "	No.
7	8 "	2 "	48 "	5½ "	Slight.	21	9 "	3 "	57 "	9½ "	Yes.
8	4½ "	2 "	17½ "	3½ "	Yes.	22	12 "	3 "	44 "	5½ "	"
9	4½ "	2 "	32 "	5½ "	Slight.	23	12 "	3 "	28 "	5½ "	"
10	5 "	2½ "	26 "	4 "	"	24	15 "	5½ "	50 "	8½ "	No.
11	4½ "	2 "	13 "	3½ "	No.	25	12 "	3½ "	70 "	10 "	"
12	6½ "	2 "	44 "	6½ "	"	26	12 "	3½ "	60 "	"	"
13	6 "	2½ "	21½ "	4½ "	Yes.	27	7 "	3½ "	15 "	4½ "	Yes.
14	7 "	2½ "	37 "	4 "	"	28	10 "	4 "	16 "	6 "	"

*Chloroform.

A study of results of ether anæsthesia by the old method shows,

as indicated by the above table, that the average time for complete anæsthesia was $8\frac{1}{8}$ minutes, (a difference in favor of new method of $1\frac{3}{8}$ minutes).

The average amount of ether for complete anæsthesia, 3 ounces, (a difference of about two ounces in favor of the new method).

The total average time $37\frac{1}{2}$ minutes, and amount of ether $6\frac{1}{8}$ ounces, as against 33 minutes and $3\frac{1}{2}$ ounces by the new method.

In two cases it was necessary to resort to chloroform, and a third took it so poorly that chloroform should have been administered.

Seven of the 28 cases tabulated recovered without vomiting, showing in this respect not much difference from results of the new method.

The severity of the vomiting in those so affected, was markedly more severe by the old method.

It will be remembered that the results obtained by the new method were with apparatus still imperfectly designed, and even at this writing undergoing important modifications, and it is believed that much better comparative showings will yet be made.

ACCIDENTAL BURNS FROM THE USE OF HOT WATER BAGS.

This is a subject of which little has been said in medical literature; indeed, I fail to recall that any reference whatever to the subject has ever met my eye in my perusal of medical journals. That it is a very commonplace occurrence, any one can determine who unearths the unwritten record of any large hospital where surgical operations are performed.

In spite of words of caution, the most painstaking instruction in the use of hot water bags, in spite of rules, threats, and penalties, these accidents still occur, and are as likely as otherwise to be from the hands of the most reliable, and best-trained nurses.

I can at this moment recall the following cases from my own experience:

Two toes so severely burned, that they were afterwards amputated.

A burn on the outer side of the ankle, three months in healing.

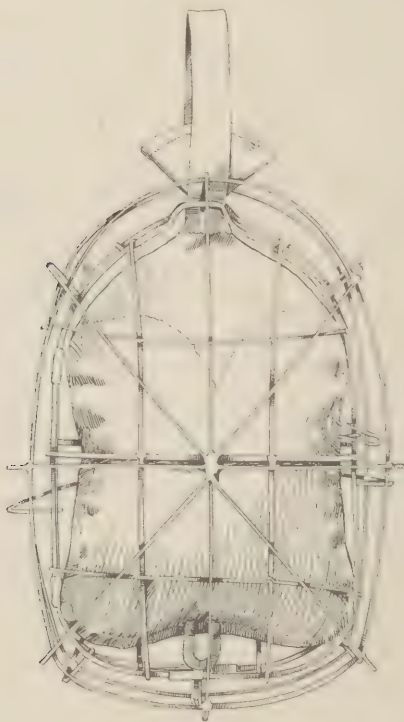
The skin destroyed along the outer tibial region, six weeks in healing.

Blisters on the dorsum of the foot and toes.

The skin destroyed throughout its whole thickness over an area as large as a silver dollar on the side of the foot. A month in healing.

These accidents place the surgeon in a very uncomfortable position, and yet no blame can be attached to him. When they occur in a hospital, it lays the institution open to very unpleasant criticism. These accidents, it will be understood, occur while the patient is still unconscious from ether, after he has been placed in bed and needs the artificial warmth.

With the view of obviating all further danger from such a source, I have had constructed a guard for hot water bags, which prevents the surface of the bag from ever coming in contact with the patient's skin.



GUARD FOR HOT WATER BAG.

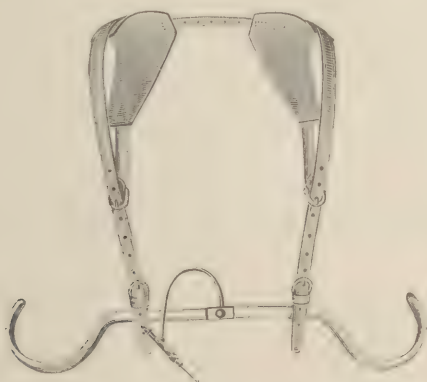
The bag can be filled and emptied without removal from the guard, and should be provided with a flannel cover, or sack, as a still further protection. The advantages are more than are at first apparent. Besides protecting the patient from burning, it will afford more warmth, for the reason that it may with safety be filled with boiling hot water, thus radiating more heat, and keeping hot longer.

This apparatus has been in use for three months, and seems to be effective in attaining the desired results.

AN IMPROVED YOKE FOR MAINTAINING THE LITHOTOMY POSTURE.

Early in my career as a surgeon, I realized the need of some cheap, simple, compact apparatus for maintaining the lithotomy posture in vaginal operations. In examining the various devices then in use, I thought I recognized in the McBride yoke the elements of a desirable apparatus.

My first attempt at improving it resulted in what is now quite familiar to the profession :



Namely, the original McBride yoke provided with broad, easy-fitting shoulder straps, instead of the single strap which was originally designed to go back of the neck.

This, though proving much superior to the original form, has been found cumbersome to carry about when operating at private houses. This is so not from its weight but from its length, it being twenty-seven inches over all,—much too long to fit into any hand-bag.

To obviate this serious drawback, I have had a still further improvement made, so that it may be folded to one-half its former length.



This permits of much easier transportation, and does not detract from its strength or usefulness.

CASES OF FRACTURE.

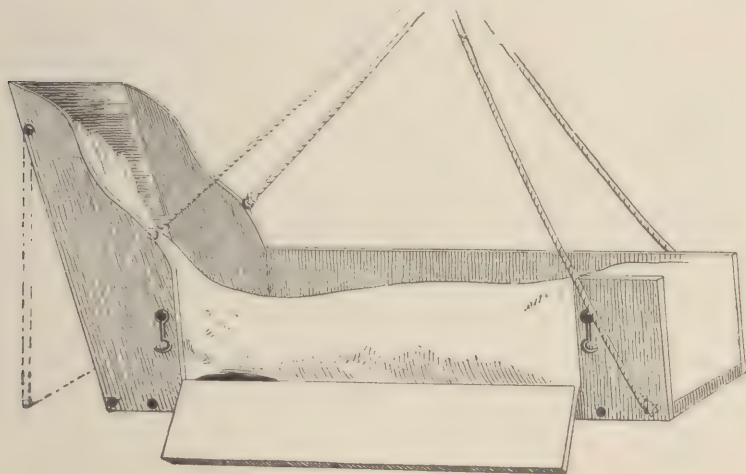
I. COMPOUND FRACTURE OF THE TIBIA AND FIBULA TWO INCHES ABOVE THE ANKLE JOINT. (BONES WIRED).

Master F., an active boy of fourteen years, fell from a tree, a distance of ten feet, fracturing the right tibia and fibula, and driving the ends through the skin into the ground.

The case came under my observation two days after the injury. In the meantime Dr. Newton, the attending physician, had cleansed the wound, readjusted the fragments as accurately as possible, closed the external wound, and placed the leg in a splint.

On opening the dressings and removing the sutures, the tissues showed evidence of the initial stage of suppurative inflammation. The wound was enlarged by incisions upward and downward, and the seat of fracture exposed. It was then seen that the line of break was very oblique, and no ordinary retaining apparatus would hold the parts in place. It was consequently determined to wire the bones, which was accomplished by drilling holes obliquely through near the line of fracture, and inserting stout silver wire. On twisting the latter, the fragments were brought within a few lines of perfect apposition. A posterior Levis splint was

then adjusted, the limb placed in a box, and suspended. The box was very ingeniously adapted to the case by Dr. Newton, in having the sides hinged, so that free access to the wound might be obtained without disturbing the limb; also the foot piece pivoted, giving access to the foot, without lifting the leg from the box.



FRACTURE BOX, IMPROVED BY DR. F. L. NEWTON.

It is a marvel how comfortably patients with fracture of the lower leg can get along by the aid of such a suspensory apparatus as is here represented. They can readily move themselves in bed, within a considerable area, without disturbing the fragments. The lad whose case is here described easily turned himself completely crosswise of the bed, at such times as it became necessary to change the linen, etc.

II. SPONTANEOUS FRACTURE OF THE FEMUR IN AN OLD MAN OF NINETY YEARS.

The fracture accidentally occurred from muscular contraction alone, for the patient, a very aged man, was found to have suffered fracture of the shaft of the femur while lying in bed.

The sands of life were fast running out when I was called to him, consequently I did nothing, except to set the limb and apply anterior and posterior splints, to provide for the immediate comfort of the patient. Death followed two days after.

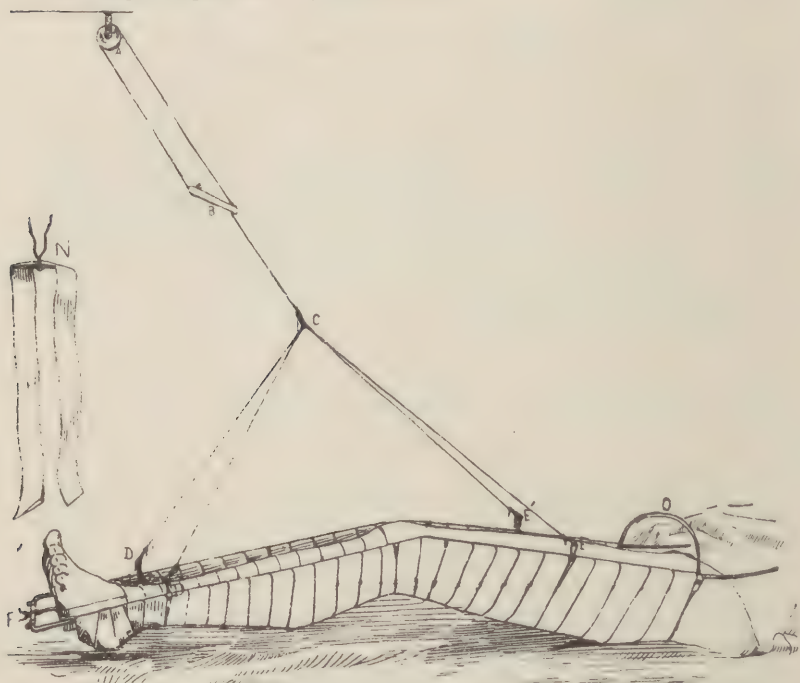
III. EXTRA CAPSULAR FRACTURE OF THE FEMUR.

This case is of interest, on account of the peculiar manner of the accident, and also of the great comfort the patient derived from the use of a peculiar splint which, I think, is but little used, and its virtues not fully appreciated by the profession.

Mrs. C., age 49, while standing on the sidewalk, near the curbstone, was jostled by a man running rapidly by her, which resulted in throwing her off her feet, into the street, striking the pavement fully upon the right side. She was unable to rise, but was picked up, placed in a carriage, and carried to her home.

On being summoned to her case, I found the following conditions, the presence of which left no doubt in my mind as to the nature of the injury :

1. A fall upon the side, full upon the Trochanter Major.
2. Inability to voluntarily move the leg.
3. The foot everted.
4. Shortening.
5. Age of patient. (Middle life).



THE HODGEN SUSPENSION SPLINT.

With these symptoms I am sure it is never necessary to search for crepitus; and, moreover, the manipulation to which it is customary to subject a leg so injured may be positively injurious. If by good fortune the fracture be an impacted one, there is every reason to preserve the impacture, but nothing can more surely loosen it than the rotating and twisting, extension and flexion, incident to the search for crepitus.

Ether was administered, and the Hodgen suspension splint adjusted.

This excellent device merits a wider use than it has heretofore enjoyed.

The ease with which the patient tolerates it is something phenomenal, in comparison with the old method of extension with weights. It is equally applicable to fractures of the neck of the femur, and its shaft.

FIVE CASES OF STONE IN THE BLADDER.

CASE I.—Mrs. A. had several months before undergone an operation for the relief of an ovarian tumor. In the course of the operation the urinary bladder was opened, and the edges of this incision repaired by the introduction of a continuous silk suture. Everything went well, and the patient fully recovered. Gradually symptoms of cystitis appeared. Exploration of the bladder indicated the presence of a calculus. By the use of the Simon graduated dilators, the urethra was stretched till the forefinger could be introduced into the bladder. The calculus could be distinctly felt. A pair of forceps was introduced along the finger, and the calculus seized and withdrawn. It had as a nucleus a portion of the silk suture. Rapid and complete recovery followed.

CASE II.—Mrs. L. had suffered with cystitis for a long time. The physician in attendance discovered the presence of a calculus, and summoned me to operate for its removal. I dilated as before, introduced the lithotrite, crushed the stone, and syringed out the fragments with a piston syringe through the largest size Simon's urethral speculum. The patient also had an entero-vaginal fistula, opening high in the vault of the vagina. This I made a vain attempt to close at the same sitting.

Cases III, IV, and V, were all old men, with enlarged prostate gland. In each the stone was removed by the Bigelow method, without difficulty and without incident. In each, recovery was prompt and uneventful.

There is scarcely any branch of surgery which affords more satisfactory results than Litholapaxy.

The author of this method of removal of the stone, Dr. Henry J. Bigelow, was probably at the time of his death,—but little more than a year ago,—the widest known American surgeon.

I never perform the operation without a feeling of reverence for the genius of the man who made it possible to relieve sufferers from this disease quickly, easily, and safely.

A CASE OF POTT'S DISEASE, WITH ABSCESS POINTING IN THE GROIN.

(Remarkable tolerance of pain through religious fervor.)

Miss W., a young woman of twenty-three years, actively engaged in art studies, came to me with the following history:

She had suffered caries of the spine when a child, with resulting curvature and ankylosis in the dorsal region. Her general health had been good in recent years. Within a few months a swelling had appeared just below the right groin. It had very gradually increased in size without, as the patient declared, causing any unpleasant symptoms, except latterly from its size and friction against her clothing. She was a person of singularly sweet and engaging manners, with an expression of determination and concealed suffering in her face.

To all of my interrogations as to pain and discomfort, either in the tumor or other parts of the body, she gave the most positive assertions that she had experienced none.

On examination of the tumor I found it well outlined, soft, and compressible, and without indications of inflammatory action. Naturally I concluded that it was a fatty tumor, and advised removal. On cutting into the tumor, my surprise was great to find it filled with tuberculous pus, and a sinus extending up into the pelvis, in the direction of the spine, a distance which could not

be fathomed with a twelve-inch catheter. The next day, on visiting the patient I questioned her as to any pain suffered since the operation. She answered, "Oh! no; if I have pain come on I stop it at once." "How do you do that?" I said. "*By Christian Science*," she answered.

The secret of my error in diagnosis at once flashed over me. It was her religion never to acknowledge pain or discomfort.

I can but admire the pluck of the sufferer in courageously carrying about that tubercular abscess all those weary months. It had unquestionably burrowed its way from the region of the spinal curvature, along the psoas muscle, to the groin.

An embarrassing complication in her case was a burn from a hot water bag, referred to in another article. The pain and discomfort from this she bore with the utmost fortitude. When she learned that the nurse from whose hands the burn occurred was to be disciplined, she begged that since the accident had resulted in no discomfort to her the nurse might be excused.

CASE OF INOPERABLE CANCER.

One of the saddest reflections upon our boasted advancement in medical and surgical science is the black list of lives sacrificed annually to that dread disease, cancer. Cancer is the *bete noir* that hangs over the life of every woman. I mention the female sex particularly, because of the tremendous frequency with which the female genital organs and mammary gland are attacked, in comparison with the same organs in the male.*

For every case of cancer of the prostate gland, there occur 224 cases of uterine cancer, and for every case of cancer of the male breast 116 of the female breast.

It is the conviction of every surgeon that *early and complete removal* is the best treatment for cancer,—but, alas! the majority of the victims of that disease keep its existence hidden from friends and medical advisers until it is far advanced.

To every surgeon come now and then those pitiable cases; and it is one of the most painful tasks which fall to his lot to tell them, "Nothing can be done."

With the view of developing something useful in the way of

* Initial seats of Neoplasms, etc., by W. Roger Williams, F. R. C. S., *Annals of Surgery*, 1891.

treating these inoperable cases, I have caused the following scheme to be carried out.

CASE OF INOPERABLE CARCINOMA OF THE MAMMARY GLAND.

In September last I was called to operate upon a case of mammary carcinoma, which had a history of a growth of about six months. On examination, I found the progress of the neoplasm had been extremely rapid, and it had diffused itself throughout the gland. It immediately impressed me as one of the most virulent forms of mammary carcinoma, which, as my experience had taught me, return with the utmost rapidity, even after very thorough removal. In this case the already wide extent of the growth would in case of attempt at operation involve the removal of a broad area of skin, and a consequent large open wound to heal by granulation.

In consultation with Dr. I. T. Talbot, it was the undivided opinion that operation was inadvisable. As a temporizing measure Myro-petroleum alb. was applied, and Ars. alb. administered internally.

In the meantime I had observed reports of the use of Pyoktanin in cancer,* and had already used it with apparently good effect in one case. The question, however, forced itself upon me as to how much of the material taken per mouth would ever reach the seat of the growth. The possibility suggested itself to me of securing an immediate application of the Pyoktanin through its local application, by means of a suitably arranged electrode. The power of the electric current to carry medicament through the skin, and affect the tissues beneath, has been a mooted question. The experience with this case seems to demonstrate, beyond question, that at least Pyoktanin can be so transferred. This is shown by the color of the urine passed the first time after the application of the Pyoktanin. The greatest care has been exercised in saving the urine last passed before the application, to compare it with that succeeding. In every trial, comparison shows a marked and unmistakable green coloration, due to the mixing of the blue with the natural yellow urine pigmentation.

What is more convincing, on standing the blue color separates

* "Notes on the effect of Aniline Dyes, especially the Blue Pyoktanin in the Treatment of Inoperable Malignant Growths," Wiley Mayer, M. D., *Medical Record*, 1891; also "Methyl Blue in Malignant Inoperable Growths," Max Elnhorn, M. D., *Medical Record*, 1891.

and rises to the top. The exceeding diffusibility of Pyoktanin, and its strong coloring property, has made it possible to thus stumble upon what may in the future prove a valuable adjunct to our knowledge of the properties of electricity.

I herewith append Dr. White's description of the method of application :

BOSTON, January 24, 1892.

My Dear Doctor:—

In answer to your request for a brief report of the case of Mrs.——, who came to me for treatment with electricity. The first three treatments were with a cataphoric electrode, having therein a solution of pyoktanin of the strength 15 grs. to an ounce of water; but as the electrode was too small to well cover the surface involved, I changed to a bell shaped sponge electrode 4 1-2 inches in diameter; this was moistened with warm water slightly, and on this was poured the pyoktanin solution. The current was of forty "axo" cells galvanic, reduced through the resistance of a Gartner rheostat to the strength required. The sponge electrode, being the anode, was placed over the tumor, but, owing to the large surface involved, it required sometimes three applications to cover it thoroughly, each application being of ten minutes' duration.

The cathodal electrode was a wire gauze 6x8 1-4 inches, covered with absorbent cotton and placed over the scapula.

Appended is a table of dates, number of applications and number of milliamperes used each time. This does not include the three first applications spoken of.

DATE.	No. of Applications.	Milli-amperes.	REMARKS.
Nov. 24, 1891,	1	10	
Nov. 27,	1	15	
Dec. 1,	3	10	
Dec. 4,	3	20	
Dec. 8,	2	12	Tissue less hard above the tumor.
Dec. 11,	2	12	
Dec. 15,	2	10	
Dec. 18,	2	10	
Dec. 21,	2	10	
Dec. 24,	2	10	Though the breast was smaller, yet it was thought to extend along the intercostal muscles on the left side, so a third application was made to cover the whole space.
Dec. 29,	3	10	
Jan. 1, 1892,	3	10	
Jan. 5,	3	10	A retraction from the left side so that two applications now cover the surface involved.
Jan. 8,	3	10	
Jan. 12,	3	10	
Jan. 15,	3	10	
Jan. 19,	3	10	
Jan. 22,	2	13	

The patient is still under treatment, and has never complained of pain during operation.

Yours sincerely, W. H. WHITE, M. D.

As to the effect on the growth of the cancer, I can only say at the present time that the rapid development has apparently been checked; neither the axillary or cervical glands show involution—there is no pain, and the general health still remains good.

AN INOPERABLE SARCOMA OF THE GROIN TREATED WITH
PYOKTANIN.

This case was bed-ridden when I first saw him. The tumor in the groin was of such doubtful character that I advised operation for the purpose of settling the question of diagnosis. It was found as above indicated, and a portion only of the growth was removed, on account of its encroachment upon vital parts. The patient was first treated with *Ars. alb.*, 3x, and injections of Fowler's solution into the tumor, and later with* Pyoktanin internally and the local application of the second decimal trituration of *Arsenicum album* daily.

It is now eleven months since the treatment was inaugurated, and his present condition is as set forth in the following letter :

DR. PACKARD :—

Dear Sir:—My husband is still living, and I think him more than comfortable for one in his condition.

His appetite seems quite good, and he can eat anything but acids without trouble.

He sleeps well from the use of morph., sulph., suppository 1-3 gr, and I have not had to be up with him any night yet. He takes the Pyoktanin every other day. The urine is of a thick, dark blue color. No arsenic has been injected for three months, and nothing has been trimmed out for about the same length of time. Only one new granulation of any size has appeared—on the lower edge of the incision, about one-half as large as an egg.

We find, on dressing the sore night and morning, that the cavity, which is about two inches in depth, is from one-half to two-thirds full of matter, but bleeds very little.

Should think the bunch perhaps one-half as large as when he had the operation, extending back of the hip.

Respectfully yours,

AN INOPERABLE CANCER OF THE UTERUS TREATED WITH AR-
SENIC, ACCORDING TO THE MITCHELL METHOD.

This case is a woman of sixty-seven years, upon whom I made curetting of the uterus in April, 1890, removing much debris, which microscopical examination showed to be glandular carcinoma. She had suffered the usual symptoms of uterine cancer in a woman past the climacteric, viz. : offensive discharge, tinged with blood ; gradual deterioration of general health ; pain, and enlargement of the uterus. The curetting was followed by semi-weekly insufflations of sugar of milk trituration of Arsenic, one part to one hundred. This was continued for over one year, with gradual improvement, and finally entire cessation of all discharge, and apparently perfect health.

*The Methyl blue is administered in capsules containing two to three centigrammes, once daily.

I should have been tempted to believe that a mistake had been made in the diagnosis, had not some secondary nodes appeared in the vagina in November last. These I laid open and scraped out, and have instituted the same treatment for them. As far as the uterus is concerned, there seems to be no return of the original trouble up to the present writing. While there can be little hope of final cure of this case, yet it is evident that the condition has been greatly alleviated, and that life may still be prolonged for a considerable time with comfort.

AN INOPERABLE CASE OF EPITHELIOMA OF THE RECTUM TREATED
WITHOUT RESULT.

This case, also, was treated by the Arsenic method, but, for some reason which I have not been able to determine, no beneficial result followed. It is possible that this method of treatment is adapted to special forms of cancer, and has no effect on others.

From subsequent examination of the case, there is some reason to believe that the growth belongs to the connective tissue group, while Arsenic has earned its laurels in growths of epithelial origin.

TWO CASES OF CHRONIC EMPYEMA.

Pyo-thorax, Pneumo pyo-thorax.

I report these two cases in detail, because of their extremely severe character; also to illustrate the importance of establishing the most adequate drainage early in the career of the patient.

Katie D., age 13 years, suffered acute Empyema of the right pleura six years ago. At that time the ordinary operation was made; that is, an incision was effected through the soft parts between the ribs, and pus evacuated. In a short time the external wound so nearly closed that there was but a small sinus for the exit of the discharge. The lung never expanded, the thoracic wall of that side collapsed all it was possible for it to do, *i. e.*, until the ribs impinged upon one another.

The patient presented a most striking appearance.

The face was pinched, palid, and denoted long suffering. The left chest was abnormally full and developed, and with each respiration rose and fell seemingly with nearly twice the range of action



KATY DOWDY'S CASE OF EMPYEMA.
(Dotted lines show size of abscess cavity.)

ordinarily seen. The right chest was as totally collapsed as the rigid walls would permit; the antero-posterior diameter was but two and one-fourth inches, and the circumferential measure was three and one-fourth inches less than the opposite side. The spine had a lateral curvature, with the convexity toward the sound side. From the sinus which still persisted a small stream of thin, offensive pus trickled as soon as the dressing was removed. I at once gave an opinion that a large suppurating cavity existed beneath the chest wall, and there was no hope of relief and cure except through resection of a large area of the ribs covering it, thus affording the most thorough drainage of the cavity, as well as opportunity for the further collapse of the chest wall, and final obliteration of the suppurating cavity.

The parents readily consented; ether was administered, and the original sinus was opened with the aid of knife and gouge suf-

ficiently to carry the finger in and sweep it about the cavity. It was overflowing with pus, which gushed out in quantities.

The cavity was found as large as a coffee cup. Incisions were then carried from the opening already made, vertically and horizontally for three inches, and a triangular flap of skin raised, exposing the ribs. With the Rongeur forceps these were quickly gnawed away, until the cover, as it were, of the whole cavity had been taken off. The ragged portions of the thickened pleura were cut away with the scissors, the cavity thoroughly washed, and the skin flap allowed to fall into the wound, without any effort to suture it.

The subsequent history of the case can be summed up in a few words. There was the most prompt recuperation. The appetite quickly returned; temperature fell to normal, the face became plump, and eyes bright. In short, the miserable, spiritless child in a few weeks became active and well. The abscess cavity was, of course, slow in filling with granulations, but there was no longer any confined pus,—the cavity could be easily kept clean; the skin flap gradually attached itself over the bottom of the cavity, and at the present time, seven months from the date of operation, there is remaining only a depressed cicatrix, with superficial sinus about one inch long, which is gradually closing.

J. H. J., age 16, suffered acute Empyema of the left side eleven months ago. An opening was made at that time in the fifth intercostal space, about three inches to the left of the sternum. This closed, except a small fistulous opening from which pus trickled at all times.

The general condition of the patient was miserable in the extreme. He was emaciated, palid, temperature 100° F., no appetite, fingers clubbed, and, as a whole, about the most unpromising subject for operation that could be imagined. He was etherized, with the view of resecting a sufficient number of the ribs to uncover the whole abscess, but he tolerated the anæsthetic so poorly that nothing was done beyond effecting a free opening by resecting a single rib. This afforded perfect drainage, and opportunity for thoroughly washing the cavity daily.

The cavity was found very large, extending nearly from the clavicle to the diaphragm. The heart was much displaced to the right, and its pulsation could be plainly seen beneath the right intercostal spaces. He recuperated rapidly, and in five weeks the



J. H. J'S CASE OF EMPYEMA.

(Dotted lines show location of displaced heart.)

second operation was made, which consisted in the removal of nearly the whole bony framework of the anterior portion of the chest. The skin flap was carefully preserved, and turned into the cavity, and held in contact with the bottom and sides by gauze packing. Healing has gone on rapidly, and prospects are excellent for final closure of the wound.

Both of these were cases where the lung did not expand after the primary operation. Whether earlier and more radical measures would have resulted differently, is difficult to say. In both, the chest wall had collapsed all its bony framework would permit, with still a considerable space between it and the compressed lung, in which suppuration would have continued as long as the patient lived, had the ribs not been extensively resected, thus allowing the soft parts to still further collapse and meet the internal wall.

It is somewhat problematical how robust these individuals will

become in the future, with but one lung to depend on for respiratory purposes.

TIBIAL ULCER FROM INJURY RECEIVED ON BOARD AN OCEAN STEAMER.

This case simply as an ulcer would be of no special interest, but coupled with the manner of receiving the injury, the immediate after-treatment, and the subsequent results, it presents an interesting chapter.

I present the history of the case in the patient's own language :

"November 1st. On voyage to Liverpool was thrown down about 4 P. M. during a gale, and bruised leg against stair-case. Caused no inconvenience during remainder of day. On retiring at night, found underclothing adhered to the leg. Soaked it off, and bandaged with silk handkerchief.

Monday, November 2d. The bruise was quite raw, so called the ship's surgeon, who bandaged the leg with plaster from ankle to calf. Tuesday, finding plaster still solid, he left it undisturbed.

Wednesday A. M., as there was sign of suppuration at lower line of plaster he took off same, and after washing with warm water, put on lint slightly smeared with some white ointment, encasing the entire leg in a long bandage. Told me I could dress the leg myself as well as any one, and to renew the dressing each morning; the wound was superficial only, and would soon get well.

Thursday A. M. in London, followed instructions. Went to Paris same day, and called physician that evening, who prescribed keeping leg bandaged and wet continually with a dilute extract of Hamamelis. Same treatment was continued through Friday. Favored leg all I could

Saturday A. M. went to Havre, and sailed at noon for New York. Continued treatment till Sunday, when, not being satisfied with progress, called in the French surgeon. He concluded not to change treatment, as he could do nothing better.

The lint I procured in Paris was medicated with carbolic acid so strongly that the crystals were plainly visible on its surface. Wound continuing to get more inflamed, I concluded it was being poisoned by the carbolized lint, which left a white deposit on the stocking. Doctor thought it quite probable, and gave me a wash to wet the bandage in. This treatment lasted several days, when the wash became so offensive, that I called the Doctor's attention to it. He said it had spoiled, and it was thrown overboard. He then began an application of ointment, and bandage as before.

Sunday A. M. off Sandy Hook in a fit of disgust threw everything overboard. Reached Boston the same evening, and put myself in care of Dr. Porter."

I was summoned by Dr. Porter the day following the patient's arrival in Boston, and found a deeply excavated ulcer, about midway between the ankle and knee, just to the inner side of the right tibial spine. It measured two and one-half inches by one and one-fourth wide, and had still clinging to its middle portion quite a

large slough. There was a dark red zone about the ulcer which seemed ready to break down, and swelling of the whole lower leg.

The following line of treatment was adopted: Absolute rest of the affected limb, with elevated posture; daily cleansing of the ulcer with per oxide of Hydrogen solution, one part to two of water; free application of the sub-nitrate of Bismuth, covering the ulcer to the depth of quarter of an inch. Under this treatment there was rapid subsidence of the inflammatory condition, and gradual narrowing of the ulcer. In about three weeks there remained an unhealed portion of only about one-third of an inch in diameter, and, with the support afforded by a lead plate fitted over the site of the ulcer, and an elastic stocking, he was allowed to get on crutches, and return to his business.

This case well illustrates the severe after-effects which are liable to follow a comparatively slight injury about the spine of the tibia. Several years ago I had under my care a child who from a slighter injury upon the shin, suffered extensive osteomyelitis, with finally extension of the disease to the hip joint, and death. At best, all injuries of this nature are followed by results disproportionate to the severity of the accident, and are tedious in recovery.

A REMARKABLE CERVICAL TUMOR IN THE NEW BORN.

Baby C., one week old at the time of my examination, presented a tumor on the left side of neck, filling the whole space between the shoulder and the base of the cranium.

The infant was apparently well-developed in every respect, and well nourished. The tumor was freely movable beneath the skin, and seemed loosely connected in its deeper parts. I removed the tumor without difficulty, and without provoking hemorrhage.

The infant tolerated the operation nicely, and recovered from the anæsthesia without incident. In the succeeding three days everything went well. Healing seemed to be progressing excellently, and the child took nourishment regularly. On the fourth day, however, infantile convulsions ensued, with death.

The tumor proved to be a cyst filled with bloody fluid, present-



CONGENITAL CERVICAL TUMOR.

ing an odor something like the lochial discharge. Microscopical examination of the cyst wall affords rather negative results. The hospital pathologist reports heterogenous tissues, difficult of absolute identification, and renders the opinion that it may be a form of Teratoma.

REPORT OF A THIRD SERIES
OF
ABDOMINAL OPERATIONS.

FIRST SERIES

Reported September, 1888, Comprising Fifty Cases.

SECOND SERIES

Reported October, 1889, Comprising Sixty-two Cases.

THIRD (PRESENT) SERIES,

Comprising Sixty-seven Cases—Total One Hundred and Seventy-nine Cases.

TABULAR VIEW.—I. Operations for the Removal of Ovarian and Parovarian Tumors.

Number.	PATIENT OF	Date of Operation.	Age.	Married or Single.	Number of Children.	Time since first noticed.	Size and Nature of Tumor.	Adhesions.		Drainage.	Hospital or Private.	Result of Operation.	REMARKS.	Reported Elsewhere
								Ovarian both (Ovaries).	Vaginal.					
1	Dr. Walter Wasselhoff, Cambridge, Mass.	Dec. 13, 1889...		M.	0	1 Year.	Ovarian Sarcoma... { Large Ovarian. { Weight 30 lbs.	1 No.	Yes.	P.	R.	{ Death 6 mos. later from recurrence. { Rapid convalescence. { No suppuration.		
2	Dr. G. W. Worcester, Newburyport, Vt.	Dec. 26, 1889...		M.	1		{ Large Ovarian. { Weight 30 lbs.	1 No.	Yes.	P.	R.			
3	Dr. Hospital.	March 14, 1890...	33	M.	2	6 Yrs.	Ovarian Cyst...	1 No.	No.	H.	R.		Do.	
4	Dr. John L. Coffin, West Medford, Mass.	March 29, 1890...	33	M.	1	5 Yrs.	{ Ovarian and { Parovarian Cysts	2 No.	No.	H.	R.		Do.	
5	Dr. W. E. Mass, Haverhill, Mass.	April 3, 1890...	46	M.	1	2 Mos.	Ovarian Cyst...	1 No.	No.	H.	R.		Do.	
6	Dr. S. H. Spaulding, Framingham, Mass.	June 5, 1890...	47	S.	0	2 Yrs.	Ovarian Cyst...	1 Yes.	Yes.	H.	R.		{ Pedicle was twisted, and the cyst in places had an appearance of gangrene. { Rapid convalescence. { No suppuration.	
7	Dr. F. A. Warner, Lowell, Mass.	July 4, 1890...	41	S.	0	2 Mos.	Ovarian Cyst...	1 Yes.	Yes.	H.	R.		Do.	
8	Dr. Evan Kennedy, Stoughton, Nova Scotia	Nov. 26, 1890...	36	S.	0	10 Yrs.	Ovarian Cysts...	2 Yes.	Yes.	H.	R.		{ Cyst was evacuated. Suppuration and mat. collocation extensive. suppuration throughout entire wound. { Source of infection unknown. { Possibly from excystation in progress in the vicinity. { Source of infection unknown. { Death from peritonitis. { Progress from excystation in vicinity of place of operation.	No. E. Med. Gazette, March, 1891, Do.
9	Dr. J. H. Moore, Brookline, Mass.	Nov. 26, 1890...	26	M.	0	3 Yrs.	Ovarian Cyst...	1 Yes.	Yes.	H.	R.		Do.	
10	Dr. N. Edmunds Parine, Westboro, Mass.	Dec. 16, 1890...	31	S.	0	2 1/2 Yrs.	{ Ovarian and { Parovarian Cysts	2 No.	No.	H.	R.		Do.	
11	Dr. Arthur Mitchell, Medfield, Mass.	Jan. 16, 1891...	23	M.	0	Several Yrs.	Ovarian Cysts...	2 Yes.	No.	P.	P.		{ Death from secondary hemorrhage. { Rapid convalescence, slight suppuration in track of drainage tube. { Tumor enormous in size, with many adhesions and extensive general prostration.	
12	Dr. Elsie A. Sears, Waltham, Mass.	Feb. 3, 1891...		M.	0	5 Yrs.	Ovarian Tumor...	2 Yes.	Yes.	P.	D.		Do.	
13	Dr. McCormac, Poughkeepsie, N. Y.	March 3, 1891...	44	M.	2	0	Ovarian Cysts...	2 Yes.	Yes.	P.	R.		Do.	
14	Dr. A. P. Fudge, Jamaica Plain, Mass.	April 2, 1891...	33	S.	0	1 3/4 Yrs.	Ovarian Cyst...	1 Yes.	Yes.	P.	P.		Do.	
15	Dr. Geo. E. Percy, Salem, Mass.	April 16, 1891...	37	M.	0	2 Yrs.	Ovarian Cyst...	1 Yes.	Yes.	P.	R.		Do.	
16	Dr. S. W. Hopkins, Lynn, Mass.	May 18, 1891...	30	S.	0	6 Mos.	{ Ovarian Cyst... { Multilocular	2 No.	No.	P.	R.		Do.	
17	Dr. J. J. Shaw, Plymouth, Mass.	May 18, 1891...	48	M.	3	0	{ Ovarian Cyst... { Ovarian Cyst...	1 Yes.	No.	P.	R.		Do.	
18	Dr. Anna Chapman, Roxbury, Mass.	June 9, 1891...	46	M.	3	0	1 Yr.	Ovarian Cyst...	1 No.	No.	H.	R.	{ One large cyst, without adhesions, and a small one with many adhesions, removed. Patient survived only two days. { Rapid convalescence. { No suppuration.	
19	Dr. Sarah E. Sherman, Salem, Mass.	June 15, 1891...	45	M.	4	0	18 Mos.	Ovarian Cysts...	2 Yes.	Yes.	P.	D.	Do.	
20	Dr. E. R. Blackwood, Brockton, Mass.	Oct. 10, 1891...	19	S.	0	2 1/2 Yrs.	{ Cystic Degeneration of Ovaries.	2 No.	No.	H.	R.		Do.	
21	Dr. Clara H. Rogers, Lawrence, Mass.	Nov. 5, 1891...	25	M.	1	0	1 Yr.	Ovarian Cysts...	2 No.	No.	P.	R.	Do.	
22	Dr. E. P. Barstow, Kingston, Mass.	Dec. 10, 1891...	37	M.	4	0	1 Yr.	Ovarian Cyst...	1 No.	No.	H.	R.	Do.	

TABULAR VIEW.—II. Operations for the Removal of Ovaries, not the Seat of Tumor.

Number.	PATIENT OF	Date of Operation.	Age.	Married or Single.	Number of Children.	Duration of Disease.	Pathological Condition or Symptoms Necessitating Operation.	One or both Ovaries.	Adhesion.	Leucorrhoea.	Hospital or Private.	Result: Recovered or Died.	Effect of operation on condition requiring it.	REMARKS.	Reported Elsewhere.
1	Dr. F. B. Worcester, Springfield, Vt.	April 16, 1890.	49	M.	0	12 Yrs.	Salpingitis.	2	Yes.	Yes.	H.	D.	.....	Formation of fecal fistula.	.....
2	Dr. S. W. Hopkins, Lynn, Mass.	Sept. 14, 1890.	39	M.	1	24 Yrs.	Uterine Fibroids.	2	No.	No.	P.	R.	Cure.	.....	.....
3	Hospital.	Oct. 22, 1890.	37	M.	1	?	Salpingitis.	2	Yes.	Yes.	H.	R.	Impaired.	.....	N. E. Med. Gazette March, 1891
4	Dr. J. S. Sanborn, Nantucket, Mass.	Nov. 5, 1890.	30	M.	2	6 wks.	Salpingitis.	2	Yes.	Yes.	H.	R.	Cure.	.....	Do.
5	Dr. C. Wesscheff, Boston, Mass.	March 26, 1891	23	M.	?	6 wks.	Pyo Salpinx.	2	No.	Yes.	P.	R.	Cure.	.....	.....

III. Operations for Other Purposes than the Removal of Ovaries

Number.	PATIENT OF	Date of operation.	Sex.	Age.	Duration of Disease.	Pathological Condition, or Necessitating Operation.	Nature of Operation.	Discharge.	Hospital or Private.	Result. (Recovery or Death).	Effect of Operation, on condition of patient.	REMARKS.	Reported Elsewhere.
FIBROID TUMORS OF UTERUS.													
1	Dr. J. Hedenberg, Medford, Mass.	Oct. 3, '80.	F.	40	15 Mos.	Uterine Fibroid.	Extirpation of Tumor.		H.	R.	Cure.	Tumor removed from preg. uterus. Normal delivery.	
2	Dr. D. S. Coles, Wakefield, Mass.	Oct. 10, '80.	F.	48	18 Mos.	Uterine Fibroid.	Extirpation of Tumor.		H.	R.	Cure.	Did a few months later of Dystocia.	
3	Hospital.	Feb. 5, '90.	F.	51	24 Yrs.	Uterine Fibroid.	Hysterectomy.		H.	D.		Adipose at dominal walls.	
4	Dr. Geo. W. Foster, Gloucester, Mass.	Oct. 29, '90.	F.	41	10 Yrs.	Fibroids of Uterus.	Hysterectomy.		H.	R.	Cure.	Short pedicle.	S. E. Med. Gazette, March '91.
5	Dr. Geo. W. Foster, Newburyport, Mass.	Nov. 12, '90	F.	46	2 Yrs.	Fibroids of Uterus, ascites and small ovarian cyst.	Hysterectomy.	No.	H.	R.	Cure.		Do.
6	Dr. C. F. Sherman, Haverhill, Mass.	Dec. 2, '90.	F.	37		Uterine Fibroid.	Hysterectomy.	No.	P.	R.	Cure.		
7	Dr. B. C. Howland, New Bedford, Mass.	Apr. 3, '91.	F.	46	12 Yrs.	Uterine Fibroid.	Removal of Tumor.	No.	P.	R.	Cure.	Weight 11½ pounds.	
8	Dr. H. C. Hallowell, Quincy, Mass.	May 3, '91.	F.	42	5 Yrs.	Uterine Fibroid.	Supra Vaginal Hysterectomy.	Yes.	P.	P.	Cure.	Small pedicle.	
9	Dr. C. F. Sherman, Haverhill, Mass.	May 29, '91.	F.	42	5 Yrs.	Uterine Fibroid.	Hysterectomy.	No.	P.	R.	Cure.	See page 39 of this report, and illustration.	
10	Dr. W. M. Haines, Ellsworth, Me.	June 1, '91.	F.	50	5 Yrs.	Uterine Fibroid.	Hysterectomy.	No.	P.	P.	Cure.		
OPERATIONS ON INTESTINAL TRACT.													
11	Dr. James Hedenberg, Medford, Mass.	Dec. 24, '80	F.	...	2 wks.	Acute intestinal obstruction.	Resection of Intestine.	Yes.	P.	D.		Scam's plates. Failure of operation. Death from Peritonitis.	
12	Dr. Wm. L. Jackson, Roxbury, Mass.	Feb. 3, '91.	F.	...	1 Mo.	Acute intestinal obstruction.	Resection of Intestine.	No.	P.	D.		Perfect coaptation. Death from intestinal paresis.	
13	Dr. J. H. Moore, Allston, Mass.	May 14, '91	F.	50	1 Yr.	Intestinal obstruction, with bladder perforation.	Resection of Intestine and lateral Anastomosis.	Yes.	P.	D.		Peritonitis.	
HERNIAS.													
14	Dr. J. N. Knight, Cliftondale, Mass.	Jan. 4, '90.	M.	18	1 Yr.	Inguinal Hernia.	Radical.	No.	H.	R.	Cure.	Recurrence of Hernia within one year.	
VAGINAL HYSTERECTOMY.													
15	Hospital.	Dec. 3, '90.	F.	37	9 Mos.	Carcinoma of Fundus Uteri.	Vaginal Hysterectomy.	Yes.	H.	R.	Cure.		
16	Hospital.	Apr. 28, '91	F.	42	2 Yrs.	Carcinoma of Fundus Uteri.	Vaginal Hysterectomy.	...	H.	R.	Cure.		
17	Dr. W. B. Whittier, Fitchburg, Mass.	Sept. 22, '91	F.	57	6 Mos.	Epithelioma of cervix uteri.	Vaginal Hysterectomy.	No.	P.	D.		Secondary Hemorrhage.	

GENERAL REMARKS ON CASES OF ABDOMINAL SURGERY.

During the past twelve months a very large number of desperate cases of abdominal surgery have come under my care ; cases of an obscure nature, where nothing short of an exploratory incision would enable diagnosis to be made ; cases of intestinal obstruction, some of which had gone on until the condition of the patient was anything but favorable for operation ; cases of tubal pregnancy ; of appendicitis ; of obscure abdominal tumors, in all of which the question of operation or no operation has at times been a most difficult one to decide.

From a purely selfish standpoint, with the reputation of the surgeon only in view, and the final tabulation of "so many cases without a death," undoubtedly the only way would be not to operate on such cases.

From a humanitarian view, the matter appears differently. As a rule in these desperate cases, the question is between certain death from the progress of the disease on the one hand, and a possible chance of prolonging life or restoring health on the other.

I believe that surgeon, who, through fear of injuring his own reputation, refuses to give the sufferer the one last chance that he begs for, is unworthy our noble profession.

Examination of the above table shows among the miscellaneous and exploratory incisions, a much larger percentage of deaths than in the other classes.

It gives me much satisfaction, however, to record not a small number of these doubtful cases where brilliant cures have followed.

In case No. 27, of table III, on the morning of the operation the physician in attendance said to me : "This case has grown so much worse within the last few days, that I have been almost tempted to give up the operation."

It will be seen that the result was most gratifying.

I know of nothing that brings more gratitude from patient and friends than successful operation upon cases of appendicitis.

The course of the disease has perhaps been obscure; fear and terror has struck home to all; the abdomen is opened, foul pus evacuated: the sloughing appendix removed, with perhaps a calculus. In twenty-four hours afterwards the patient's temperature has dropped to normal, and happiness once more reigns.

In my experience the satisfaction of saving, even though it be a half, a quarter or an eighth of these cases who must die without operation, far outweighs the disappointment resulting from the fatalities that do occur.

A STRANGE CASE OF FIBROID TUMOR.

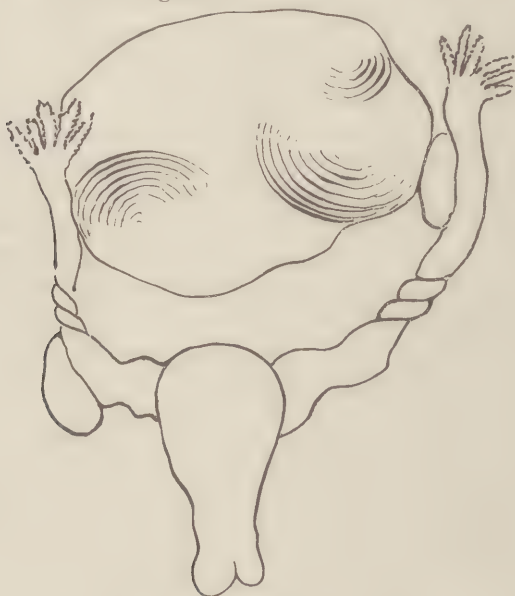
Two Pedicles. Strangulation from Rotation. Death.

In April last, I was summoned to Quincy by Dr. H. C. Hallowell, in consultation over a case with the following history:

An abdominal tumor, of two years duration, had never given the patient trouble until the present illness. She had been in excellent general health, and had given birth to a child since the advent of the tumor, without complication, either during gestation or at delivery. Ten days prior to my visit, she began to experience discomfort in the region of the tumor, which had gradually increased, with the supervention of nausea, vomiting, and gradual elevation of temperature. On examination, I found a hard abdominal tumor, rising above the brim of the pelvis, irregular in shape, with apparently a moderate amount of ascitic fluid. There was so much tenderness over the site of the tumor that I was unable to effect a very satisfactory examination. The general condition of the patient was not good. The temperature was 102° F.; pulse thready and rapid, and she was perspiring profusely. On questioning her, I found that just previous to her present illness, she had been engaged in the laborious work of house cleaning, incident to which she did much reaching, lifting, etc. I also ascertained that the tumor in the preceding years had been very freely movable, changing its position with every extreme change in posture of her body.

Taking all these circumstances into consideration, I could arrive at but one conclusion, viz. : that the case consisted of a long pedicled tumor, which had undergone strangulation by axial rotation, and advised immediate operation as offering a forlorn, but the only hope of saving life. Though the general symptoms of the patient were not flattering for a successful issue, yet she still seemed to possess considerable strength and vitality. Her own home was totally unfit for such a formidable operation, consequently she was removed without delay to the Quincy Hospital, where, with the co-operation of Doctors Hallowell, Rice, and Hunting, the tumor was removed, a cut of which is seen below.

On cutting through the abdominal wall, a considerable quantity of very dark, bloody fluid gushed out. On introducing my hand, and sweeping it about the tumor, I discovered that it had two pedicles, each several inches in length, and apparently originating from each broad ligament.



A UNIQUE CASE OF FIBROID TUMOR.

The abdominal wound was enlarged sufficiently to turn the tumor out, when, what had been indicated by my touch was shown to be true, and in addition, each pedicle was twisted two turns upon itself. The tumor was very much discolored by gangrenous changes, which had gradually resulted from the strangulation. The uterus

had no attachment to the tumor, and was about normal in size and position. The pedicles were easily ligated with silk, the abdominal cavity thoroughly flushed, and the abdominal wound closed, with drainage. The patient stood the operation fairly well, but subsequent events showed that her system was so profoundly affected by the septic results of the gangrenous process, that she had not strength to rally. She died the following morning.

Examination of the tumor showed the ovary and Fallopian tube of one side very closely adherent to it, yet distinctly separable by a sulcus. On the other side, the Fallopian tube was also very closely adherent, and the ovary was either the tumor, or so closely blended with it, that the former had lost its original shape and character.

The question is an interesting one as to what the tumor was, and what its origin. Examination microscopically by Dr. Lantzius-Beninga, Pathologist of Boston University School of Medicine, shows that the tumor is composed of fibro-myxomatous tissue, exactly such as is met in uterine myomas.

PATHOLOGICAL LABORATORY,
BOSTON UNIVERSITY SCHOOL OF MEDICINE. }

HORACE PACKARD, M. D.,

Dear Doctor:—I have examined the specimen submitted by you, and find the following conditions: The tumor weighs six and one-half pounds, and has attached to it by their frimbriated extremities, the Fallopian tubes. They are greatly enlarged, and their present connection with the tumor appears to be due to adhesions formed long ago.

In each tube, about four inches from the tumor, there are twists which must have been produced by rotation of the tumor on its transverse axis.

From the discoloration and extremely friable condition of the tumor, I should judge that gangrene had taken place from strangulation. On each side of the tumor, closely attached to it on one side, and free on the other, is a body of rather elongated, oval shape, evidently the ovary. One of these bodies is rather small,—smaller than a normal ovary, and on microscopical examination shows cells only in the cortex, while its interior consists of fibrous tissue; and cortex as well as deeper parts contain a great many blood vessels.

No Graafian follicles or corpora lutea could be detected.

The other ovary, although of normal form, is greatly enlarged, and sections, made from a small piece taken from its surface, show a more or less dense cellular tissue, with a large number of greatly dilated blood vessels. These vessels are completely filled with blood, and in many places the surrounding tissue is also infiltrated with blood, so that the sections appear in places almost like those of a cavernous angioma. Whether there is an independent tumor here, or whether the angiomatous appearance is only due to a slow varicose dilatation of the ovarian vessels, and then to a sudden distension in consequence of the intense passive hyperæmia at the time of strangulation, is not possible to be determined without further examination of sections from different parts of the ovary, which I do not feel justified to make now, as the beauty of the specimen would necessarily be spoiled by it. A few spots were found which reminded one of Graafian follicles, although the tissue was too much changed to allow of a certain diagnosis, and in one place there was an old corpus luteum.

Microscopical examination of the tumor itself, shows it to consist of muscular tissue of the smooth variety, to have a structure identical with that of the common uterine leiomyomata, or so called fibroid tumor.

Sincerely yours,

S. R. F. LANTZIUS-BENINGA, M. D.

Can this tumor be a uterine myoma, which, in the process of time, had become gradually detached from its original site in connection with the uterus, by attenuation of its pedicle? In support of this theory, I can refer to many personal observations of cases of uterine myomata where the pedicle, a long one, has been found very attenuated, and a new attachment has formed between the tumor and adjacent viscera, through which abundant blood supply has become established. I have never doubted but that such a tumor would still continue to live, even though its original pedicle should still further attenuate and disappear.

That occasionally uterine myomas do become detached from their original site, seems to be the opinion of writers on this subject.* Further, in support of the theory of uterine origin is the large size of the tumor. While ovarian fibroids are met with now and then, the agreement of observers is, that they are usually small, from the size of a goose egg to a cocoanut.

Leaving the question of the origin of the tumor, there is still sufficient to interest, in the twisted pedicles. I have once before, early in my professional career, met with a case of axial rotation of a fibroid tumor, which made a profound impression upon me.

A woman had a large, hard, irregular-shaped abdominal tumor, which she had carried many years, without special discomfort, until during some laborious work she felt it change its position. In the succeeding few days she became very ill, with soreness and pain in the region of the tumor; nausea and vomiting ensued, with collapse and death.

Necropsy showed a large interstitial uterine fibroid rising high above the pelvis, carrying with it the ovaries and tubes; and a thin, flat pedicle about four fingers broad, composed of the stretched out cervix and broad ligaments.

I have never seen reports of cases of axial rotation of *uterine fibroids*, but from my own experience, as well as that of others, I should judge it a not uncommon complication with *ovarian tumors*.

Cases Numbers 17 and 21 in my third series of laparotomies

* Int. Encyclopedia of Surgery. Vol. VI. p. 805.
Am. System of Gynæcology. Vol. II, p. 561.



AXIAL ROTATION AND STRANGULATION OF AN INTERSTITIAL MYOMA.

were strangulated ovarian tumors from twisting of the pedicle, and in the *New York Medical Journal* of this year (1891,) for May 16th, on page 565, five cases are reported from the experience of Lawson Tait.

A CASE OF TUBAL PREGNANCY.

(With Brief Report of Four Others.)

Cases of tubal pregnancy are of sufficient rarity to make each one worthy of the fullest record.

Mrs. P., age 32, had borne three children without serious complication, and had menstruated regularly up to within four months of my first examination of her case. August 9, 1890, was the date of her last normal period. The following October she had a flow lasting about half an hour, followed by irregular shows of blood up to about December 18th. She had experienced pain and aching through the hips and back since early in October. In the latter part of November, she had a sudden, sharp pain in the

right side, and fainted. On January 7th, the date of my first visit, she had been suffering excruciating pain for twelve days, with frequent attacks of faintness." On January 1st, she felt distinct movements.

On inspection of her case, I found a slight, pale-faced woman, with a countenance indicating much patient suffering. Palpation of the abdomen disclosed a tumor filling the whole right inguinal region, and rising two or three inches above the pelvis. Auscultation gave a rushing, seething sound all over the surface of the tumor. Vaginal examination showed the uterus pushed well to the left side, and the tumor occupying and filling the right side of pelvis.

Diagnosis of tubal pregnancy was made, with rupture of the tube at its lower quadrant, (at the time she felt the sudden, sharp pain, and fainted in December,) and escape of the fœtus into the folds of the broad ligament, without interruption of the gestation; and the location of the placenta on the anterior wall of the gestation sack.

Here was, indeed, a formidable case. The patient at that time was almost *in extremis* from exhausting pain. The outlook for the future was most gloomy. The wall of the gestation sack was undoubtedly very thin and fragile, with imminent danger at any time, with the growth of the fœtus, of rupture, and escape of the contents into the abdominal cavity.

The gravity of the situation was such that I summoned my colleagues, Doctors Talbot and Boothby in consultation.

Three courses were open in the management of the case:

First—To let it alone, and trust to the slow and uncertain process of nature.

Second—To destroy the fœtus by electricity, or injecting some material into the sack.

Third—Operation by abdominal section for removal of the fœtus.

All these methods were fully discussed, and the undivided opinion reached that abdominal section offered the best prospect of success. Accordingly, after due preparation, an incision was made in the right linea semilunaris, through the abdominal wall, exposing the surface of the tumor. The complication which proved the serious obstacle in conducting the operation at once presented itself, viz., the location of the placenta, lining the whole anterior portion of the gestation cyst. It was my design to leave

the placenta untouched, but the question obtruded itself upon me, "How can the fetus be reached and removed without wounding the placenta?" I enlarged the abdominal opening by a transverse incision three or four inches in length, reaching towards the left side. This enabled me to pass my finger down along the inner margin, where I found a place apparently free from placenta. Through this I carefully made an opening from which, in a moment, came a gush of amniotic fluid, accompanied by the fetus. A gush of blood followed which was found to issue from a wound in the edge of the placenta. This was seized with a pair of large hæmostatic forceps, but the placental tissue was so fragile that with nearly every grasp of the forcep, fresh and increased hemorrhage resulted. The patient was already seriously feeling the loss of blood by the flagging pulse. The only course left was to attempt to form a pedicle, ligate it, and remove the placenta. I was successful in doing this, so far as the broad ligament attachments of the gestation cyst were concerned, but other vascular anastomoses existed farther up, apparently with the mesentery or intestine, and in spite of all effort to control it, bleeding still continued after the placenta had been stripped off. The patient was now in collapse, and presently ceased breathing.

In reflecting upon the case, the question presents itself as to whether any other course might have afforded better results. Letting the case alone, and allowing nature to take its course, seemed hardly admissible for consideration with the existing condition. Attempt at destruction of the fetus with electricity seemed to us so uncertain at this stage of development, that the question of resorting to it was also dismissed.

Published reports of ectopic pregnancy indicate that there is a wide divergence in the mind of the profession as to the proper course to pursue.

The inclination among many surgeons appears to be to operate early and thoroughly. The following extracts show the drift of thought.

Charles A. L. Reed, M. D., *American Journal. Obs. and Gyn.* 1891.

"Electricity has been proved to be an uncertain feticide in these cases; it has been shown to be dangerous in its application; it has been demonstrated to be so tardy in action, that fatal accidents may occur before other results are realized; it almost invariably leaves patients with dangerous after conditions, even in cases reported as successful; and finally it has been reported as having been successful in such a large number of cases in which the diagnosis was more than doubtful, that its effectiveness for other than mischievous results is open to the most serious question."

Duncan. (*Lancet*, March 1, 1890.)

Would open the abdomen for all cases of ectopic gestation, except those in which rupture has occurred in the broad ligament. If the *fœtus* dies, and the tumor becomes encysted, hemorrhage does not occur, and it is finally absorbed.

Olhausen. (*Jour de Med.*, April 20, 1890.)

"If the pregnancy has advanced beyond the middle period, the question as to treatment becomes complex, especially if the child is living. The children in such cases are usually malformed and not viable. The mother, on the other hand, is exposed daily to the danger of a fatal hemorrhage. There is less danger from the performance of an abdominal section. In most cases the sac can be extirpated, even though it is included in the broad ligament. If there has been suppuration in the sac, however, it should be attached to the abdominal wall and drained. If the latter procedure is adopted, the placenta should be removed, though the hemorrhage is sometimes great after such a procedure, and one must exercise discretion as to such a step. If the *fœtus* has long been dead and the sac has not suppurated, an operation is indicated, for, as long as calcification of the *fœtus* is incomplete, suppuration will be possible."

Banga. (*Ectopic Pregnancy*).

"Thomas has warmly advocated the use of electricity, not only with a view to killing the *fœtus* and waiting for its resorption, but also with a view to arresting placental circulation, thereby minimizing the danger from hemorrhage in a subsequent laparotomy. This would seem a very good plan if the action of electricity were sure; but since it is not, it seems more rational to operate at once, and not allow the placental circulation to increase by a delay due to futile efforts to arrest it. In my first case, Dr. Jaggard and I discussed the propriety of a trial with electricity, but we decided to gain time over an increase of the placental circulation by immediate operation, and we really had no difficulty in controlling hemorrhage."

Greig Smith, *Abdominal Surgery*, p. 283.

"Electricity is the best of all minor plans of operation; but it is not quite free from danger, it is not always successful, and in its limited application it enters into competition with laparotomy in the same field where laparotomy is most successful in primary results, and has also secondary results which are absolutely perfect. A dispassionate consideration of the natural terminations of the disease, and of the effects of minor modes of treatment, almost drives one to the conclusion that at all stages and under all circumstances, abdominal section is the best treatment. In the early stages and before rupture, abdominal section ought to be a very simple and successful proceeding. Even during the alarming stage produced by rupture, one surgeon (Tait) can show a record of 23 operations with one death. Between the fourth and ninth months the dangers to the patient are least; the next period of danger comes on at term. But if the risk to the patient during those five months is stationary, the danger of operation is weekly added to."

Matthew D. Mann, of Buffalo.

"It seems to me, then, in the light of what we know regarding the natural history of ectopic gestation, and in the light of experience up to to-day, that we ought to advocate and to practice electrical feticide in most cases during the first four months of extra-uterine gestation, and before symptoms of rupture into the abdomen have occurred. For I think a lot of fanciful and theoretical objections have been raised which are not warranted by experience or the facts. Much has been made of a few mistakes, and cases have been distorted and made to act as arguments which ought never to have been used."

Dr. Skene, of Brooklyn.

"This declaring positively that electricity is nonsense, and that it is criminal to use it, and that it is fraught with all sorts of dangers, and should be condemned to all eternity, is all wrong; that is not the true sort of scientific discussion, and never leads to any proper conclusion. I have yet to hear anything that is at all evidence that electricity is dangerous. Now, if you see a case, why not use it, and, supposing it does not succeed, why can you not open the abdomen and remove the diseased portions? That is the great argument in favor of trying electricity, that it does not render the case one particle less amendable to surgical treatment than if you had not used it at all; so it has the great advantage of being safe."

As far as I know, such brilliant and world-wide known operators as Tait, Martin and Leopold, are dumb regarding the use of electricity in tubal pregnancy.

On the side of the electricians, there is abundant evidence of the usefulness of electricity, with the inclination to place it first in importance, with laparotomy held in reserve in case of failure with the current.

"Electricity in Gynæcology": Grandin and Gunnin pp. 88 and 89.

"In this country instances have multiplied so rapidly that in the neighborhood of one hundred cases are now on record where electricity has been used with success in ectopic gestation, and at one time or another our most distinguished obstetricians have expressed their belief that it is the safest of all methods of treatment applicable to the anomaly in its early stages. The method, indeed, would need no defence, and at this date no lengthy exposition, were it not that latterly, owing to the strong operative tendency of the times, there appears to be a desire to substitute laparotomy for it—a substitution for which it seems to us in face of the recorded successes from electricity and the great risk of laparotomy, there is no justification.

The objections which have been urged against resort to electricity are two in number. In the first place, there is liability to rupture of the cyst, and in the second place, we kill the fœtus and then leave it within the maternal abdomen where it may at any time suppurate and give rise to septicæmia. Both of these objections are purely theoretical, seeing that in the large number of cases in which electricity has been resorted to, rupture of the sac has never occurred, nor, so far as we can find any reference, has the dead fœtus become a source of danger to the mother."

G. Betton Massey, M. D. "Electricity in the diseases of women." pp. 186-188.

"If an extra-uterine pregnancy be diagnosed before rupture, and prior to the fourth month, an electrical treatment is highly proper, and will, most likely, result in a complete cure. But the object for which electricity is thus used should be clearly understood. To kill the fœtus is the only purpose at first. In accomplishing this, the faradic current is decidedly most appropriate, as shock and arrest of circulation are, doubtless, the modes of death, and these require current interruption. Interrupted galvanic currents are equally effective, but are unnecessarily painful to the woman.

After the vitality of the ovum has been arrested, two courses are open to the surgeon: either laparotomy for the removal of the dead mass, which is now more safely performed, or a mere promotion of the efforts of nature in removing the mass by absorption. The latter course will commend itself to many, since a number of instances are now on record where an electrically killed ovum has either partially or completely disappeared from the abdominal cavity. Brothers* has collected a list of forty-three cases treated by

* Amer. Jour. of Obstetrics. May, 1888, p. 474.

electricity. In two of these electro-puncture was used; in twenty-one, the faradic current; in sixteen, the galvanic; in two, both currents; and in one the exact current used was not stated. Of these cases, two terminated fatally. One of these, a case of Braxton Hicks, died from an aspirating puncture made five weeks after the electricity had been used. The other death was apparently attributable to the electrical application, an artery in the sac bursting during the procedure."

"The Diagnosis and Treatment of Extra-uterine Pregnancy." William T. Lusk, M. D. N. Y. Jour. of Gynæcology and Obstetrics, Dec. '91. pp. 84-85.

"Brothers has collected fifty cases in which electricity was employed. In twenty-five, to which I can add a twenty sixth case from my own practice, and not included in Brothers' list, the health of the patient was ascertained to be good at the end of periods varying from one to eight years. There were no evil results in any of the cases traceable to the electricity. Of the four fatal ones, in that of Janvrin, rupture of the tube had undoubtedly taken place after the galvanism was employed; in that of Wylie, the eight month foetus was killed by injections of morphia into the sac after electricity had been discarded; and in the case of Duncan and Steavenson, and Boulton and Steavenson, electro-puncture was employed.

Against the method, it has been urged that the successes reported are in themselves evidences of an erroneous diagnosis, that the faradic or galvanic current endangers the integrity of the tube; and that the ovum, after its vitality has been destroyed, is liable to produce suppuration. But *a priori* deductions should not be allowed to outweigh the evidence of carefully conducted experiments. It should be borne in mind, however, that electricity is only available in the first three months, and that no one in this country advocates electro-puncture.

From all this mass of clinical material and expert opinion, one finds it difficult to arrive at a conclusion. It must be borne in mind that a portion of it comes from Europe, where the use of electricity is almost unknown.

Again, a portion of it comes from operators who are unknown by reputation, beyond the small circle in which they move. Of surgeons quoted, three, Thomas of New York, Skene of Brooklyn, and Mann of Buffalo, all possessing a national reputation, occupy a middle ground, and grant electricity an important place in the treatment of ectopic pregnancy. At the same time they do not belittle laparotomy, but give it also its proper place.

From my own experience thus far, coupled with my knowledge of the experience of others, I am inclined to the following conclusions:—

First. Before rupture has occurred, laparotomy.

Second. If rupture has occurred intra peritoneally, laparotomy.

Third. After rupture has occurred into the broad ligament, and prior to four months, electricity.

Fourth. After four months development of an intra-ligamen-

tous gestation, course open to question ; but probably destruction of the fœtus with electricity, if future experience shows that it can safely be done, with laparotomy held in reserve for the removal of the dead fœtus at such time as its presence shall prove a menace to the mother's life, will be the conservative course of the future.

If, in the case here reported, abdominal section was the right course, based upon our present knowledge, the next question which presents itself is, "Was the proper time selected for the operation?" As far as I was concerned, the present was the only time I had before me for selection. If, however, we look back to the history of the case, we see a time, when, with careful examination, coupled with the symptoms of the case, a diagnosis of ectopic gestation might have been made with positiveness, and that was at the time of the *first sharp pain in the right side, with fainting*. It is my opinion that *had the gravity of the case been recognized then*, and operation then performed, no insurmountable difficulties would have been met; for the fœtus, placenta, and gestation sack were then small, and the vascular anastomoses correspondingly limited.

All evidence, from the pens of the most noted and able operators, points to the value of *early treatment* in cases of ectopic pregnancy. A duty here devolves upon the physician in general practice ; for it is he who first sees these cases, and upon his early recognition of the abnormal condition depends the future welfare of the patient.

In the nature of things, it naturally follows that but few of these cases will be brought to the notice of physicians until at the time of rupture. It is then that the diagnosis can be made, and it is then that operation should be performed or electricity applied. A few cases are recorded where diagnosis of ectopic pregnancy has been made prior to rupture, and operation successfully performed. Rupture of the tube is most likely to occur at about the twelfth week, but may do so before. The subsequent history of the case depends on whether the rupture is at the lower quadrant, and the fœtus escape into the folds of the broad ligament, or upward into the peritoneal cavity. If the former occur, one of two results follows: either the development of the fœtus goes on for a time, in its new location, as in the case cited above, or there is at once a hemorrhage into the folds of the broad ligament (a hæmatocèle), with death of the fœtus.

In the latter case, *i. e.*, rupture upward into the peritoneal cavity, there is very likely to be gradual and persistent hemorrhage, which accumulates in the abdominal cavity, with finally death of the patient in from forty-eight hours to a week, according to the rapidity of the escape of blood. This class of cases of tubal pregnancy is the one most likely to come under the observation of the surgeon, and be brought to operation.

This is so because :

First—According to recorded observation, intra peritoneal rupture is by far, the most common sequel of tubal pregnancy.

Second—When it occurs, there follows very soon startling and ominous symptoms, viz. : increasing pallor, clammy skin, thready pulse, sub-normal temperature and faintness.

Third—These threatening symptoms follow close upon the early ones of ectopic pregnancy, (thus forming a direct sequence), *i. e.*, cessation of menstruation for perhaps two periods, followed by an irregular hemorrhagic discharge, with unusual feeling of discomfort and pain in one or the other tubal regions, and finally at about the twelfth week, or may be before, sudden and sharp pain, with fainting. A case of the above class came under my observation in November, 1890,—a patient of Dr. C. A. Gale, of Rutland, Vt., upon whom I operated. (Case No. 21, in the table of Abdominal Surgery, p. 37).

Mrs. H., aged 24, had missed one menstrual period. Two weeks before the time of operation a watery flow appeared, tinged with blood. At about the fourth week of pregnancy she was suddenly prostrated with terrific pain, which was quieted only by morphine. She had faintness, with cold sweat, at the time, and could scarcely speak or move. This pain continued until within three days of the operation, except as relieved with morphia.

When the patient came under my observation, she appeared exsanguinated, and her pulse was very weak and thready. I recognized it at once as a desperate case, and without waiting for refinements in diagnosis, proceeded at once to abdominal section. I was rewarded by finding the abdomen full of clots, and an intra peritoneal rupture of a right tubal pregnancy. I easily lifted the mass out of the pelvis, grasped the pedicle with a pair of strong forceps, and separated the gestation sack with the thermo cautery. No hemorrhage followed, and no ligature was used. A drainage tube was adjusted. Uninterrupted recovery took place.

My personal experience in cases of ectopic pregnancy has been at variance with that of other operators who have accumulated a series of cases; for instance, Price reports that he has never yet met a case of extra-peritoneal rupture, *i. e.*, into the folds of the broad ligament. Of my series of five cases, *four* have been in the folds of the broad ligament, *i. e.*, the rupture of the tube has been downward, and the products of pregnancy have escaped extra-peritoneally.

Mrs. W., 39 years of age, had missed two menstrual periods, followed by irregular shows of blood, uneasiness in the left ovarian region, and finally sudden sharp pain, and fainting. There had been no suspicion of pregnancy, since she was subject to remis-

sions of periods; much less of tubal pregnancy. This was my first case of ectopic pregnancy and I did not at first grasp the significance of the symptoms, which, indeed, I did not succeed in eliciting until later. I did, however, make a very thorough vaginal examination under ether, finding a tumor filling the left side of the pelvis, not involving the uterus. I went even a step further, and introduced an aspirator needle, without immediate result, except a few drops of blood. The secondary result, however, was a surprise to me, since our present ideas of ectopic pregnancy had not then been evolved. There was gradual increase in the size of the tumor, encroaching upon and surrounding the uterus, and reaching over and encroaching upon the right side.

After a few days, the growth came to a standstill, and was followed by gradual retrogression, and finally after the lapse of six weeks, it had shrunk to the size of an orange.

My view of the case is as follows: There was a viable foetus in the folds of the broad ligament up to the time of my puncture with the needle. The needle killed the foetus, and wounded the placenta; result—hemorrhage, formation of a large sub-peritoneal hæmatocele, with final absorption, and mummification of the foetus.

Miss R., applied to me for treatment for "ovarian trouble." I could get nothing in the history of the case of value in making a diagnosis, presumably on account of her unwillingness to divulge her habits of intimacy with the opposite sex. On vaginal examination I found a tumor the size of an orange in the right ovarian region, distinct from the uterus.

Laparotomy was advised and accepted. I found the tumor within the folds of the broad ligament, and met no difficulty in its removal. On cutting it open, I found a mummified foetus imbedded in dried up clots.

This case was an extra-peritoneal rupture of a tubal pregnancy, with hemorrhage into the broad ligament, death of foetus, and absorption of the blood clots to the degree above mentioned.

Mrs. H., came into my hands in a condition of almost collapse from septicæmia. She had been suspected to be a subject of extra-uterine pregnancy. An exploratory laparotomy was made, and the case abandoned.

A vaginal puncture was also made at the time of the abdominal incision, without result, except as the sequel shows, the death of the foetus; presumably from the use of an aspirator needle not surgically clean, the setting up of putrefactive decomposition of the dead foetus and placenta.

The day after she came into my hands a foetal hand, far advanced in decomposition was passed per rectum.

I lost no time in making a free vaginal opening into the tumor, which presented well toward the vagina, and evacuated a putrid foetus and remains of a placenta and blood clots. The patient, however, was so far poisoned that she did not recover.

A NEPHRECTOMY.

Miss M. came under my care in September last, with a right renal fistula, a sequel to a nephrotomy which had been made six months before, for evacuating a renal abscess. Her condition was pitiable in the extreme. She was pale, emaciated, with fluctuating

temperature, and lying all the time in a pool of pus and urine, which escaped from the sinus in the lumbar region.

I despaired of doing anything for her, on account of her extremely unfavorable general condition. As time went on, however, she gradually gained in flesh and strength, until I began to entertain the idea of attempting an operation for the removal of the offending kidney. My principal solicitude was for the condition of the other kidney, and moreover a doubt as to whether any other kidney existed.



COMPENSATORY HYPERTROPHY OF RIGHT KIDNEY, WITH RUDIMENTARY KIDNEY OF OTHER SIDE. (AUTOPSY.)

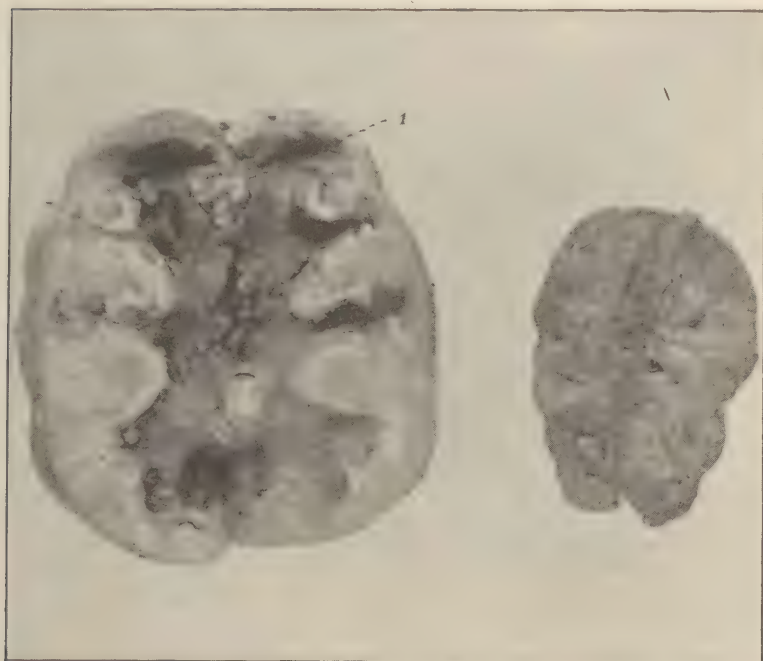
The occasional absence of one kidney, or its existence in a rudimentary state only, had been brought to my notice with emphasis, in my earlier years of practice. Once, in making an autopsy, I found an enormously enlarged kidney on the left side, with only the most rudimentary trace of one on the right.

Again, my first Nephrectomy, made in 1887, which survived but a few hours, was found to possess only a rudimentary kidney upon the other side, also the left.

The rudimentary organ here represented (see next page), appears twice as large as it should, since it is shown on section, being cut open and spread apart. Both specimens are now preserved in the Anatomical Museum of Boston University.

* As to the frequency of this anomaly: in about twelve thousand post mortems made in four of the large London hospitals within a period of ten years, three cases of absence of or a rudimentary kidney were found. This gives one such case in about four thousand. Dr. Robert F. Weir, of New York, states that the single kidney is present once in about five thousand cases.

To gain all possible data regarding the other kidney, I had the urine, which was passed *via naturalis*, saved for several successive



AUTHOR'S FIRST NEPHRECTOMY, 1887.

RUDIMENTARY KIDNEY OF LEFT SIDE.

1 Calculus.

days, and carefully measured, with the following result: Daily average of urine passed prior to operation from July, 1891, to December 24, 1891, $15 \frac{18}{100}$ ounces. With the large amount which escaped through the sinus in the side, I calculated that the most of that saved must come from the other kidney.

Examination of the urine showed the presence of pus. Did this come from the right kidney, or was the left also in a state of suppurative nephritis? I next attempted catheterization of the left ureter, but failed. The whole matter was then laid before the patient, with the dangers of the operation represented in their

* "Diseases of the Kidney," by Henry Morris, F. R. C. S., p. 68.

strongest light. Without hesitation she chose to take the chances offered by removal of the kidney.

The operation was made without difficulty, and was completed in forty minutes.

The secretion of urine has been carefully recorded for each twenty-four hours since the operation as follows :

DATE.	AMOUNT.	DATE.	AMOUNT.	DATE.	AMOUNT.
1891. Dec. 24.	12 fl. $\frac{3}{4}$.	1892. Jan. 1.	17 fl. $\frac{3}{4}$.	1892. Jan. 9.	24 $\frac{1}{2}$ fl. $\frac{3}{4}$.
" 25.	10 " "	" 2.	12 " "	" 10.	22 $\frac{1}{2}$ " "
" 26.	12 " "	" 3.	17 " "	" 11.	18 $\frac{1}{2}$ " "
" 27.	11 " "	" 4.	12 " "	" 12.	17 $\frac{1}{2}$ " "
" 28.	14 " "	" 5.	16 $\frac{1}{2}$ " "	" 13.	18 $\frac{1}{2}$ " "
" 29.	16 $\frac{1}{2}$ " "	" 6.	21 $\frac{1}{2}$ " "	" 14.	26 " "
" 30.	16 $\frac{1}{2}$ " "	" 7.	12 $\frac{1}{2}$ " "	" 15.	20 " "
" 31.	11 " "	" 8.	28 " "	" 16.	28 " "

Daily average since operation, 17.30 fluid $\frac{3}{4}$.

It was at first quite heavily loaded with pus, but has gradually cleared, until now it is nearly normal. The gradual increase in the daily amount passed is interesting, as indicating the wonderful facility with which the other remaining kidney assumed the function of its fellow.

The removed kidney was very extensively invaded by suppurative inflammation, presumably tubercular. The pyramids were apparently widely destroyed. The cortical portion was much congested, and the weight of the organ was eight ounces.

At the present time three weeks from the date of the operation, the condition of the patient is excellent, and recovery seems assured.

CHOLECYSTOTOMY.

Removal of Ninety-five Gall Stones.

Mrs. O., age sixty, had suffered almost constantly with severe pain in the right hypochondrium. It had finally located itself in a tumor, appearing just beneath the short ribs. The only amelioration of her pain had been secured by the use of morphine. She gave no history of attacks of gall-stone colic, nor of jaundice. Her physician, Dr. N. W. Rand, had made a diagnosis of gall-stones, which was proved to be correct by the operation which was performed December 29th, 1891.

Palpation after the patient was placed under ether showed a tumor apparently filling the whole of the lumbar region, quite prominent anteriorly, and in close contact with the right kidney posteriorly.

An incision was made in the right linea semilunaris, and on introduction of the finger the enormously distended and thickened gall cyst was made out. It was brought forward as far as possible into the wound, and sponges packed about it to protect the peritoneum. An incision was made through its wall parallel with the abdominal incision, when out came multitudes of gall-stones, whitish in color, angular in outline, and fitting together like the seeds of a pomegranate. At last the cyst was evacuated, and its edges fastened to the upper angle of the abdominal wound. The remainder of the wound was closed with interrupted silk sutures.

The progress of the case after operation is well set forth in the following extracts from Dr. Rand's reports :

JANUARY 1, 1892.

Dear Doctor.—Mrs. O. vomited a good deal for the first thirty-six hours. That has ceased. She had little pain but much restlessness. Pulse yesterday 138, and pretty good nearly all day. This morning 126, and each alternate pulsation is very weak. There is considerable flatulence in the stomach,—“a lump there,” as she says. She has had almost no fever. Temperature, 98° at 6 A. M. to-day. She seems fairly bright and hopeful.

JANUARY 2, 1892.

Dear Doctor.—Mrs. O. is better this morning. Had a good night. Pulse regular at 113; temperature, 98 $\frac{3}{8}$. Taken three tablespoonfuls of milk and lime water every two hours.

JANUARY 12, 1892.

Dear Doctor.—I think I may safely say that Mrs. O's operation was an unqualified success. Barring some trifling annoyances, she has gained steadily. I took out the last of the sutures Sunday (10th). All of the wound except the artificial fistula has healed without suppuration. She takes a fair amount of food, and *has not had a particle of opium in any form since the operation*. She had it every day for three of four months previous.

On counting the gall-stones the total number was found to be ninety-five. The angles and facets which they presented were undoubtedly produced by the trituration process to which they were subjected by the muscular contraction of the gall-bladder.

The muscular structure of the cyst wall had become enormously developed by the long-continued contractions. There was no bile in the cyst, and evidently had not been for a long time. The cystic duct was obliterated. With the permanent drainage established by the suturing of the wound in the cyst to the abdominal wall, there will probably be final obliteration of the cyst.

There was much thickening of the capsule of the liver for a considerable area about the gall cyst, and the existence of a cancerous deposit was feared, since such a complication is a not infrequent accompaniment of long-continued irritation of the gall cyst.

APPENDICITIS.

(*Typhlitis, Peri-typhlitis, Cæcitis, Typhlo-enteritis.*)

This disease has now become so well-known and understood that it is hardly necessary to dwell upon its pathology. It is now very definitely established that all the conditions represented by the sub-heading of this article, arise from an inflammation which has its seat primarily in the appendix vermiformis.

There are several important points relating to this subject which I may well dwell upon :

First—An attack of so-called peritonitis in the male is pretty sure to originate in an inflamed appendix. The day of “idiopathic” peritonitis has gone by. If peritonitis arise, we now know that it must be from some specific infective material which has, through some channel, gained access to the peritoneum. In the female the Fallopian tubes furnish such channel for the access to the peritoneal cavity of infectious matter, hence the great frequency with which we meet pelvic peritonitis in the female.

The focus of pain and tenderness in an attack of peritonitis in the male often points to appendicitis as the exciting cause. The appendix is normally located about two inches from the anterior superior spinous process of the ilium, on a line toward the umbilicus, but is sometimes displaced even to the extent of being found upon the opposite side of the abdomen. The fact of this dislocation is of value in arriving at a diagnosis in peritoneal inflammations which are not localized in the right inguinal region.

Second—These inflammations are never extra peritoneal. It is, perhaps, not to be wondered that the error has been fallen into in the past of terming some of the cases of appendicitis extra peritoneal abscesses. It is a fact that not a few abscesses of this character become early shut off from the general peritoneal cavity by

agglutination of adjacent loops of the intestine. Nature does this undoubtedly before the appendix becomes perforated, so that by the time it ruptures, she has walled in a little corner which safely receives the pus. There it may remain for a longer or shorter time, without serious detriment to the patient. Such a pathological condition may terminate in one of four ways:

- I. Rupture into the general peritoneal cavity, and death.
- II. Penetration into the intestinal cavity, with recovery.
- III. Penetration through the abdominal wall, with recovery.
- IV. Absorption of the inflammatory products, with recovery.

Unfortunately the first of these is very likely to occur, and hence the disease is an exceedingly perilous one.

No hard and fast rules can be laid down as to the treatment of appendicitis. Those cases which do not reach a suppurative stage subside without any alarming symptoms. They amount to little more than transitory pain and tenderness in the cæcal region, with moderate elevation of temperature. In such attacks, rest and the local application of cool compresses will probably do all that can be done.

Cases which do not thus terminate, are the ones which give rise to the greatest anxiety. Continuation of an elevated temperature, say 102° F., persistence and increase of localized pain and tenderness, with the formation of a tumor in the right inguinal region, are symptoms of the gravest import.

If all this have occurred by the end of the fourth day, it indicates a rapidly progressing inflammation, and calls for the promptest surgical measures. Many cases with these symptoms go on for a week or ten days, with a successful termination through operation, but there is always the greatest danger in such delay.

The following cases have come under my observation during the past year:

CASE I.—Mr. L., age thirty-two, had been ill ten days with pain and tenderness in the ilio-cæcal region. When he came under my observation he was suffering severely from septicæmia, due to absorption of the pus. His temperature was 102° F.; there was nausea, vomiting, cold perspiration, and a tumor in the cæcal region. I considered the case an unfavorable one, on account of the advanced stage of the disease. Without delay, however, other than necessary preparation for the operation, I incised the abdominal wall through the right linea semilunaris, and easily reached

the tumor. It was overlaid by adherent coils of the intestines, which the finger easily separated. Out gushed a large quantity of foetid pus, and with it a calculus the size and shape of a date seed. I next sought for the appendix in the depths of the cavity, found it, ligated, and removed. It was in a state of gangrene, and showed distinctly the aperture through which the calculus sloughed its way. Recovery followed without incident.

CASE II.—Mr. C. Locomotive engineer, age thirty-seven, had already suffered one attack of appendicitis, and had partially recovered, only to be prostrated by a second attack.

When I first saw him resolution was evidently again taking place, for his temperature had dropped to normal, and he was feeling better, though there was still a distinct tumor in the right iliac region. I advised operation, because of the unquestioned presence of an appendicitis; because his general condition was so favorable to withstand operation; and to save him from a recurrence. Incision was made directly over the site of the tumor, but very little pus was found. The appendix was adherent and gangrenous. It was ligated, and removed without trouble. Uninterrupted recovery followed.

CASE III.—Willie R., age eleven years, had suffered with an appendicitis ten days. Symptoms of general peritonitis had supervened within the twenty-four hours preceding my first examination. There was so great tenderness and tympanitis that a tumor could not be outlined, but after the administration of ether it was very distinct. It could also be reached by a digital examination per rectum.

I made an incision over the site of the tumor, and evacuated a large quantity of foul pus, and with it a calculus the size and shape of a bean. The sloughing appendix was removed. The patient never rallied from the septicæmic poisoning which existed prior to the operation. The wound refused to heal, the stomach tolerated no nourishment; he rapidly emaciated, and died the fifth day.

CASE IV.—Johnnie W., age 9, was prostrated with abdominal pain and tenderness, which finally localized in the *left* inguinal region. I saw him after he had been ill about one week. There was then a distinct tumor in the left ilio-lumbar region. With all possible speed I consummated arrangements for operation, and on incising the abdominal wall over the tumor was re-

warded by a free outflow of fœtid pus. I did not search thoroughly for an appendix, because I was not impressed at the time with the probability of that dislocation.

Maturer thought, however, has convinced me that this must have been one of those rare cases of extreme dislocation of the appendix vermiformis. Prompt recovery followed.

I may be pardoned for mentioning another case which just eluded my grasp. The physician having it in charge was alert, and had already interviewed me, so as to have everything in readiness for prompt operation at the onset of the first alarming symptoms. In the interval required for this interview, interested friends prevailed upon the patient to change his medical adviser. He fell into the hands of a "regular," who permitted the case to run on till general peritonitis and septicæmia ensued. At this late date operation was performed, and death promptly followed. Incongruous as it may seem, the parents of the young man, who were far distant during the painful tragedy, now bitterly blame the faithful physician who first had the case in charge.

The appendix vermiformis has been very properly called the "death trap" of the intestines. Its wall is very poorly supplied with muscular tissue—hence its inability to expel debris of any kind which may drop into it. We often hear of foreign bodies, such as fruit seeds, leaden shot, etc., becoming lodged in the appendix. My experience, thus far, however, which includes about one dozen cases, has failed to substantiate such reports. True, I have found foreign bodies, and in my early experience was prone to exclaim, "Ah! here is a bean or a date seed, which has caused the trouble," according which the foreign body most resembled. Invariably I have found on examination that such foreign body was composed of hardened fœcal matter.

TWO CASES OF OVARIAN SARCOMA IN GIRLS UNDER TWENTY.

These cases are of special interest, on account of the alleged rarity of malignant diseases of the ovary in women in early life.

CASE I.—Miss C., age seventeen, had for two months noticed gradual increase in the size of the abdomen, without pain. On examination I found a well-rounded tumor, distinct from the uterus, rising well into the abdominal cavity, about the size of the adult head. I made abdominal section, and removed without difficulty a solid, dark-colored tumor of the left ovary, which proved on microscopical examination to be a sarcoma. Prompt healing followed, with recovery of perfect health within six weeks.

The patient spent the summer at the seashore, returning early in September in excellent condition. In a short time, however, the abdomen again enlarged, and I again made abdominal section, only to find a recurrence of the sarcomatous growth, with widespread invasion of the abdominal viscera.

The wound was closed without attempt at removal, and the patient died two weeks after.

CASE II.—Miss F., age eighteen. This patient had always been a delicate girl. The winter preceding my relation to her case had been spent in California, when she had exhibited unusual lassitude, and unwillingness to engage in amusements and exercise, as had previously been her custom. Within two weeks a bunch had been discovered in the lower portion of the abdomen. In view of this startling discovery, she was hurriedly transported across the continent to her home in the vicinity of Boston. She suffered much pain during the long journey, and on arrival was prostrated. Her temperature was 102° F.; pulse rapid, and the lower part of the abdomen exquisitely tender to the touch. I was able to make but inadequate examination, owing to the tenderness of the parts, but was inclined to believe that we had a pelvic abscess to deal with. I urged the importance of the most thorough investigation of the case, through the administration of ether and operation, if such should be deemed advisable. At the earliest possible date, ether

was administered, and, finding that the tumor bulged well into the vagina, I explored from that direction first. On making an incision through the vaginal vault I found we had a solid tumor to deal with, instead of a pus formation. It was then approached by abdominal incision. Immediately on opening the peritoneal cavity, out gushed dark, bloody fluid. Further exploration showed a solid tumor of the right ovary, about the size of the foetal head, very dark and turgid. A few slight adhesions were broken up, and its pedicle was quickly reached, which was found twisted. The tumor was removed without difficulty, the pelvic cavity flushed, and the wound closed.

Within twenty-four hours excessively high temperature occurred, 104° F.; copious perspiration, and delirium. The patient survived only about thirty-six hours. Microscopical examination of the tumor showed it to be Sarcoma. This case, beside being of interest on account of the malignant nature of the tumor in one so young, is also worthy of special note on account of the strangulation of the tumor. To the rotation of the tumor, and consequent cutting off of the blood supply, must be attributed the sudden onset of alarming symptoms, with the rapidly developing sequelae. The patient was, unquestionably, in a state of septicæmia prior to the operation. Undoubtedly earlier operation would have prolonged the patient's life a few months, but, in consideration of the malignancy of the tumor, and the absolute certainty of early recurrence even had it been successfully removed, it was a mercy to the patient that her sufferings were thus early terminated.

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